### Report of the

#### **OVERSEAS PRIVATE INVESTMENT CORPORATION**

### **ANNUAL POLICY REPORT**

**FISCAL YEAR 2009** 



Submitted Pursuant to Section 240A of the Foreign Assistance Act of 1961, As Amended

**June 2010** 

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#### **OPIC ANNUAL POLICY REPORT - FY 2009**

#### **Executive Summary**

- In Fiscal Year 2009 (FY 2009), OPIC assisted 117 new projects (including 24 investment funds subprojects and nine framework subprojects) in 54 countries or regions, involving a wide range of industries. These projects are expected to generate more than \$480 million in U.S. exports and support over 770 U.S. jobs.
- OPIC continues to support U.S. small businesses. Of all the projects that OPIC supported in FY 2009, 76 percent, or 89 new projects involved small businesses. In addition, the projects OPIC assisted in FY 2009 are expected to procure \$93 million from U.S. small businesses located in 23 states, plus the District of Columbia. This procurement is expected to support 154 jobs in U.S. small businesses during the first five years of project operations.
- In FY 2009, OPIC announced a new commitment to transparency and significantly expanded the
  volume and breadth of information it discloses to the public about the projects the agency supports,
  as well as provided enhanced opportunities for public comment on environmentally or socially
  sensitive projects.
- In FY 2009, OPIC also expanded its efforts to support the development of clean and renewable energy projects and strengthened its policies related to climate change mitigation.
- Sixty-nine percent of FY 2009 projects target the services sector, which includes financial services, social services, communications, tourism and other services. The high proportion of projects in this sector reflects the increasing importance of services to the global economy and the desire of U.S. services companies to expand their operations internationally.
- The projects that OPIC supported in FY 2009 are expected to generate close to 11,400 jobs in developing countries. Total initial host-country expenditures are projected to be \$4.3 billion, which will support these jobs and spur additional economic activity and indirect employment in the host countries. Eighty percent of the 117 OPIC-supported projects in FY 2009 were located in low- and middle-income developing countries.
- In FY 2009, OPIC site monitored 57 insurance, finance and investment fund projects in various sectors in almost all world regions. FY 2009 was the second complete fiscal year of integrated site monitoring where, in most cases, OPIC monitored each project during the site visit for all three disciplines – Labor and Human Rights, Environment Impacts, and Economic and Developmental Effects.
- In FY 2009, OPIC continued to work in close consultation with the U.S. Department of State's Bureau of Democracy, Human Rights, and Labor (DRL) when reviewing each project on human rights grounds.
- OPIC pursued its strategic initiatives by working in close collaboration with other U.S. agencies in promoting economic development within key regions in the world, including the Middle East and North Africa, Sub-Saharan Africa, and Central America.

#### I. OPIC in 2009

#### **Fiscal Year Overview**

In Fiscal Year 2009, OPIC assisted 117 projects in 54 countries and regions.

OPIC assisted 117 new projects<sup>1</sup> located in 54 countries and regions around the world in FY 2009. This is a significant increase from the 71 projects OPIC supported in FY 2008. In 2008, there was a delay in Congressional passage of OPIC's authorizing legislation that prevented the agency from making any new project commitments for nearly six months. For this reason, the 2009 total project count reflects a significant increase over 2008.

In Fiscal Year 2009, the 117 new projects included:

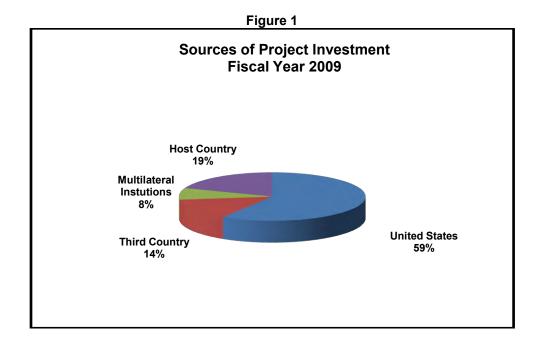
- 20 structured finance projects
- 9 framework subprojects
- 52 small and medium enterprise finance projects
- 24 investment fund subprojects
- 19 insurance projects<sup>2</sup>.

The total investment amount for the 117 new projects was \$6 billion, of which approximately 59 percent (\$3.5 billion) represents investment from U.S. sources (including OPIC), 19 percent from host countries (\$1.2 billion), 14 percent from third countries (\$847 million), and eight percent (\$468 million) from multinational development institutions (see Figure 1). Thus, OPIC's assistance to U.S. investors leveraged over \$2.5 billion worth of investment from non-U.S. sources.

1

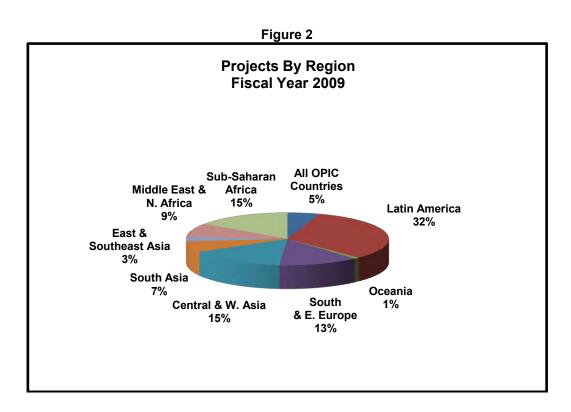
<sup>&</sup>lt;sup>1</sup>The project count includes new finance and insurance projects that have not been previously reported to Congress, as well as downstream investments made by OPIC-supported investment funds and framework agreements. Prior to FY 2007, OPIC estimated the economic and developmental impact of its framework agreements and investment funds using a model based on actual monitored results from similar types of facilities. Projects were evaluated at the framework and fund level and the impacts at the subproject level were not included in the cumulative reporting data. However, in FY 2007, OPIC changed its methodology to include the estimated economic impact of the individual downstream subprojects in its cumulative reporting data instead of the modeled data for the framework agreements and investment funds. This change is intended to increase the transparency and accuracy in its cumulative reporting data. Thus, the project count does not include eight new investment funds that OPIC supported in Fiscal Year 2009.

 $<sup>^2</sup>$  This count includes seven projects that OPIC supported through both OPIC's Insurance Department and Finance Department.



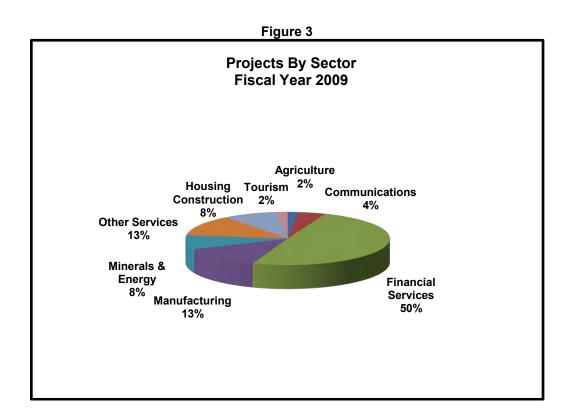
#### OPIC-supported projects target emerging markets around the globe.

In FY 2009, OPIC supported projects throughout the developing world, with a significant portion of projects located in the agency's targeted regions: Sub-Saharan Africa, the Middle East and North Africa, and Central Asia. The regional distribution of OPIC's FY 2009 projects is shown in Figure 2 below:



#### In Fiscal Year 2009, OPIC supported projects across a broad range of industries.

Figure 3 illustrates the projects OPIC supported in 2009, broken down by sector. Projects in the financial services sector accounted for 50 percent of all new OPIC-supported projects in 2009, followed by manufacturing and other services (13 percent each), minerals/energy and housing construction (eight percent each), communications (four percent), and agribusiness and tourism (two percent each). The entire services sector, composed of financial services, communications, and other services, accounted for 69 percent of all new OPIC-supported projects in 2009.



#### **OPIC Initiatives in Fiscal Year 2009**

In 2009, OPIC continued to target key regions and sectors to fulfill its mission of promoting positive economic development in emerging markets.

- OPIC focused on investments in the renewable energy and clean technology sector to promote "green" investment in the developing world.
- To encourage investment in particularly vulnerable countries that are critical to U.S. foreign policy, OPIC continued to support U.S. entrepreneurs with viable business opportunities in post-conflict and transition markets, particularly in the Middle East and Central Asia.
- In response to the global financial crisis and liquidity crunch, OPIC focused on improving access to credit in numerous developing countries, targeting borrowers such as microentrepreneurs, small- and medium-sized business, and low- and middle-income homebuyers.

### OPIC supports renewable energy and clean technology projects across the developing world.

#### India

During Fiscal Year 2009, OPIC supported several innovative clean technology and renewable energy projects. For example, Olympus Capital Holdings Asia, through its OPIC-supported Asia Development Partners Fund II, invested in Oriental Green Power Pte. Ltd. ("OGP"), a leading aggregator and developer of renewable energy assets in India.

Established in 2007, OGP makes long-term investments in and/or acquisitions of companies that utilize non-conventional power sources such as biomass, small scale hydropower, biogas, and wind throughout India. As of December 31, 2009, OGP had 175 MW of operational renewable energy capacity with more than 500 MW under its construction/implementation pipeline.

By providing capital to companies in the country's renewable energy sector, OGP will have a positive developmental impact and furthers the Government of India's goal of promoting renewable energy projects. Renewable energy sources such as wind, solar, hydropower, and biomass not only augment energy generation, but also improve the environment, create markets for crop residues, and increase employment in rural areas.

## OPIC supports U.S. businesses in post-conflict and transition markets that are critical to U.S. foreign policy, particularly in the Middle East and Central Asia.

International development is widely acknowledged as one of the three core pillars of U.S. foreign policy, and OPIC is a U.S. government agency uniquely qualified to execute on this mission of promoting development through the creation of long-term economic opportunities in countries critical to U.S. interests overseas.

#### **West Bank**

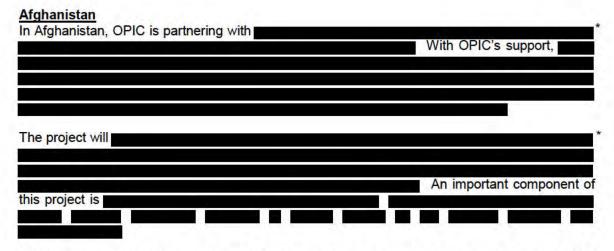
OPIC has supported the establishment of a newly-incorporated Palestinian non-bank housing finance company, the Affordable Mortgage and Loan Company ("AMAL") that will operate in the Palestinian Territories, headquartered in Ramallah. Its mission will be to provide long-term, fixed-rate and adjustable-rate housing finance to low- and middle-income households through established banks and Islamic finance companies. The investment is targeted at developing new neighborhoods adjacent to big cities such as Ramallah, Jenin, Hebron, Nablus, and Qalqilya resulting in approximately 17,000 new affordable housing units over the next 5 to 10 years. This project will have a significant development impact in broadening the mortgage finance market and expanding the homeownership base of the West Bank. In addition, OPIC support of this project allows for loans of longer tenors than are presently available in the local market.

The facility will total \$485 million. AMAL will use long-term funding provided by OPIC (\$241 million of which \$72 million will be guaranteed by the International Finance Corporation) and the Palestine Investment Fund (\$72 million) (collectively, the "Common Creditors") and the Bank of Palestine and Cairo Amman Bank (collectively, the "Originating Banks") to provide up to 25-year, fixed-rate or 5-year adjustable-rate mortgage financing. Additionally, the Originating Banks will provide up to \$100 million in mortgage financing and the U.K. Department for International Development will provide an estimated \$20 million of funding that will be used as first-loss cover. AMAL will operate as a service provider on behalf of the Common Creditors and the Originating Banks and will not assume credit risk on the underlying mortgage loans.

#### Iraq

OPIC has supported the Iraq Middle Market Development Facility ("IMMDF") through three separate loan transactions, with the most recent loan committed during Fiscal Year 2009. IMMDF was created with capital provided by the Coalition Provisional Authority ("CPA") in 2005. Cooperative Housing Foundation ("CHF International"), the U.S. investor, was selected through a competitive bidding process to operate the company to make loans to small- and medium-sized enterprises ("SMEs"). OPIC's first loan disbursed \$41 million for IMMDF's initial lending activities while total original grant funds to this project were \$23.5 million. From this first pool of funding, IMMDF made a total of \$51 million in loans to 22 borrowers, ranging from \$500,000 to \$5 million. Due to the success of IMMDF's first facility, the State Department provided IMMDF with an additional \$8.2 million grant and OPIC provided a second loan in the amount of \$10 million for lending to small Iraqi businesses and agribusinesses.

Most recently, OPIC agreed to support a third facility to continue lending to Iraqi SMEs. OPIC's commitment in this third facility is for \$19 million with an associated grant of \$10 million. This project provides critical capital to Iraq's underdeveloped financial sector and will help to stimulate additional banking activity in Iraq through IMMDF's successful track-record lending to local borrowers.



OPIC targeted-projects provide critical capital to micro-, small- and medium-sized entrepreneurs and homebuyers in emerging markets during the recent global financial crisis.

OPIC supported numerous financial services projects in 2009, with a particular emphasis on projects that improve access to finance for micro-borrowers, small- and medium-sized entrepreneurs, and low- and middle-income homebuyers in emerging markets. SMEs are a significant driver of employment and production. However, in many developing countries, SMEs are unable to access capital to finance their continued expansion, production, and employment growth. Similarly, providing long-term mortgages to low- and middle-income homebuyers in emerging markets has helped connect a traditionally under-banked demographic with access to capital from the private market at reasonable terms. OPIC has focused on improving access to finance across its eligible countries and across all OPIC product offerings.

OPIC's ability to provide capital availability during the global credit crisis underscores the agency's value in emerging markets. Examples of this support include the following investments:

#### India

OPIC provided an investment guarantee through its framework agreements with Citibank to support the growth of Spandana, a Hyderabad-based microfinance institution ("MFI"). Spandana's mission is to be the leading microfinance service provider in India and to create market driven and equitable solutions for underserved segments of the population. The \$20 million Citibank loan, which included a \$16.5 million OPIC guarantee, will assist the MFI in providing its lending services to a broader clientele and in underserved regions.

Spandana, established in 1997 by Padmaja Reddy, provides specialized microfinance services to low-income female borrowers in India. Spandana has transformed over the last decade from a small non-governmental organization into one of India's largest microfinance institutions with mainstream institutional support. Spandana has continued to successfully manage growth with operations now spanning eight states and a client base that constitutes almost 1.5 percent of the "below poverty line" population in India. This project will have a positive impact on the Indian economy by increasing the availability of credit to low-income women. Increased access to credit will enable enterprises to expand and innovate. The project will also encourage private sector development and provide significant downstream benefits to consumers and suppliers by targeting micro-entrepreneurs.

#### **Central America**

In 2009, OPIC provided investment guarantees to expand financial services to small- and medium-sized entrepreneurs and low- and middle-income mortgage borrowers at financial institutions across Central America. OPIC is supporting Banco de America Central ("BAC"), which is one of the largest financial institutions in the Central American region. To support the growth of Banco de America Central's operations in Guatemala, Honduras, Nicaragua, El Salvador, Costa Rica and Panama, OPIC provided \$200 million in guarantees to leverage total portfolio expansion at this network of financial institutions totaling \$300 million. This project will have a positive developmental impact on the host countries by providing mortgages to the low-and middle-income segment of the population and SMEs that are currently underserved by traditional lending institutions. Furthermore, the project introduces new management processes and technology to the market. This investment should result in over 8,000 new loans in these countries, with loans ranging from \$5,000 to \$100,000 and averaging \$40,000.

# II. U.S. ECONOMIC & HOST COUNTRY DEVELOPMENT IMPACTS

In FY 2009, OPIC committed to 117 projects, an increase over 2008 when OPIC committed to 71 projects. As noted earlier, the increase in the total number of new projects supported in 2009 was primarily the result of a backlog of projects that could not be committed in 2008 due to the delay in passage of the agency's authorizing legislation.

#### U.S. Economic Effects

The projects that OPIC supported in FY 2009 will support over 770 U.S. jobs.

The FY 2009 portfolio of OPIC-supported projects will result in important economic benefits to the United States. These include:

 A substantial portion of the initial procurement for OPIC-supported projects will be supplied by U.S. firms, resulting in an estimated \$250 million in U.S. exports of capital goods and services.

- The value of American materials and equipment required for ongoing operations is estimated at \$230 million over the next five years.
- As a result of this level of initial and operational procurement from the United States, the FY 2009 projects will support an estimated 3,865 person-years of direct and indirect employment for U.S. workers. This is equivalent to an average of 773 U.S. jobs over a five-year period.
- Taking both the financial and trade flows into account, the combined impact of the FY 2009 projects on the U.S. balance of payments over the first five years of operations is expected to be a positive \$710 million.

Information in the Exhibits section at the end of this report shows the break-out of OPIC-supported projects and their impact on the U.S. economy through procurement and support of U.S. employment. Exhibit 1 on page 37 breaks out all of the OPIC-supported projects in 2009 by sector – including agribusiness, minerals and energy, manufacturing, and services. Using these four sectoral classifications, the chart provides data on the markets – host country, U.S., and third country - in which revenue will be generated for all OPIC-supported projects in 2009, and what the U.S. procurement amount – both initial and operational –is projected to be by sector. The U.S. employment impact is generated using procurement data provided by investors.

Exhibit 2 on page 38 shows in detail the revenues generated by third-country sales from all OPIC-supported projects in Fiscal Year 2009, classified by sector. Projects are classified according to their impact on U.S. employment — one group includes projects having a positive U.S. employment impact, and the second group includes projects with a neutral U.S. impact.

Table 1

Estimated U.S. Economic Benefits of Fiscal Year 2009 Projects Supported by OPIC				
Total project investment	\$5,999 million			
U.S. investment in projects	\$3,528 million			
U.S. percent of total	59 percent			
Total direct U.S. project exports	\$480 million			
Initial procurement from U.S.	\$250 million			
Operational procurement (5 years)	\$230 million			
Estimated U.S. employment supported				
5 years, direct and indirect)	3,865 person-years (773 U.S. jobs)			

OPIC-supported projects are carefully screened for their U.S. employment effects. OPIC does not support projects that would harm the U.S. economy or result in the loss of U.S. jobs. OPIC collects and analyzes, both geographically and sectorally, the projected U.S. employment and associated economic effects of the projects that it assists. Even before taking into account their positive U.S. employment impacts, *none of the Fiscal Year 2009 projects are expected to result in the loss of U.S. jobs*. For a detailed description of the methodology used to calculate the U.S. employment effects of OPIC-supported projects due to initial and operational procurement, please refer to Exhibit 4 on page 44.

#### OPIC supports U.S. small businesses, directly and indirectly.

OPIC is dedicated to assisting U.S. small businesses expand into developing markets. Since 1997, OPIC has provided approximately \$3 billion in direct loans to U.S. small businesses. According to the U.S. Small Business Administration, U.S. small businesses represent 99.7 percent of all employer firms and employ about half of all private sector employees. U.S. small businesses have generated 60 to 80 percent of annual net new jobs to the economy over the last decade and small businesses play an important role in U.S. trade flows, comprising nearly 97 percent of all identified exporters and producing 28.6 percent of total reported exports. OPIC recognizes the importance of small businesses as a key driver of U.S. economic growth and actively seeks to partner with these firms in enabling their expansion overseas.

OPIC's efforts to reach out to small businesses have yielded positive results in Fiscal Year 2009. OPIC supported 89 new projects that involved small businesses, representing 76 percent of all new projects supported by OPIC in Fiscal Year 2009. This includes:

- 13 small businesses received OPIC political risk insurance
- 34 small businesses received OPIC investment guarantees<sup>3</sup>
- 45 small businesses received OPIC support in the form of direct loans, which totaled over \$1.2 billion.

In addition, of the 117 OPIC insurance and finance projects OPIC supported in FY 2009, ten include U.S. investors that are women- or minority-owned businesses.<sup>4</sup>

Indirectly, OPIC-supported projects have benefited U.S. small businesses through the project-related procurement of supplies and services from U.S. small businesses. During their first five years of operations, the projects OPIC supported in FY 2009 are expected to procure \$93 million from U.S. small businesses located in 23 states plus the District of Columbia, supporting 154 U.S. jobs.

OPIC collects data on the specific U.S. companies that will provide goods and services to OPIC-supported projects. Investors are encouraged to provide as much detail as possible regarding their procurement of U.S. goods and services so that the positive impacts on the U.S. economy of OPIC-supported projects can be recorded fully and accurately. In FY 2009, 42 percent of project-related U.S. procurement was identified by specific U.S. supplier and type of product.

<sup>&</sup>lt;sup>3</sup>Includes 24 investment fund subprojects. One project received both an OPIC investment guaranty and political risk insurance

<sup>&</sup>lt;sup>4</sup> This data is not collected for OPIC investment fund and framework subprojects, as they do not have U.S. ownership stakes.

Using the data collected for the fiscal years 1994 through 2009, OPIC has identified the specific U.S. suppliers for over \$15.3 billion in expected procurement for OPIC-supported projects. These U.S. companies are located in 49 states, plus the District of Columbia and Puerto Rico. Approximately 57 percent of the identified suppliers are U.S. small businesses.

#### **Host Country Development Effects**

## In FY 2009, OPIC continued to systematically evaluate the developmental impacts of all projects.

OPIC's core mission is to promote private U.S. investment that will contribute to the economic development of the world's less developed countries. OPIC selects projects that are likely to serve as foundations for long-term economic growth, and that provide innovative products or services to emerging market countries. To further enhance OPIC's assessment of the relative benefits of the projects that it supports, OPIC uses two developmental assessment models – the standard developmental matrix and the financial services development matrix. For a detailed description of the methodologies employed for both the development matrix and the financial services development matrix, refer to Exhibits 5 and 6 on pages 45 and 46.

#### OPIC projects score well on both development matrices.

In FY 2009, fifty projects were scored on the financial services developmental matrix. The average developmental score was 85. Fifty-eight projects were scored on the standard development matrix.<sup>5</sup> The average developmental score of these projects was 87. OPIC's long-term goal is to achieve an average development rating of 100 across all business lines.

The projects that OPIC supported in 2009 that had the highest development scores were:

#### **Financial Services**

In Fiscal Year 2009, the most developmental financial services-related project was a \$62.6 million investment in the BRAC Africa Loan Fund to finance the first phase of BRAC's expansion of its microfinance operations in Tanzania and Uganda which were established in 2006. Over the next ten years, BRAC intends to build integrated microfinance and development programs in at least ten countries in Africa. OPIC will be contributing \$28 million to the project in the form of two loans, one for \$22 million and the second for \$6 million to be drawn down over 3.5 years. Private U.S. investors, including the Ford Foundation, The David and Lucile Packard Foundation, CARE, Three Guineas Fund, Calvert Foundation, MMA Community Development and Monarch Community Fund, will be contributing a total of \$12 million in debt financing to the project. European and African investors, including Triodos, Triple Jump, Stromme, and Norfund will be contributing a total of \$18.9 million in debt financing. BRAC Bangladesh has contributed an additional \$3.7 million.

This project will have a strong developmental impact in the host countries. BRAC estimates that the proceeds of the Fund will allow the operating entities in the three target countries<sup>6</sup> to add 141 new branches to their 82 existing branches, to reach roughly 500,000 new borrowers with an average loan size starting at just under \$200 and growing to over \$500 as borrowers repay loans and take out larger ones, and to grow BRAC's consolidated gross African loan portfolio from

<sup>&</sup>lt;sup>5</sup> Nine projects were not scored on either developmental matrix because they involved the provision of insurance on existing assets and did not have additional developmental effects.

 $<sup>^6</sup>$  The Fund will support BRAC's operations in Uganda, Tanzania and Southern Sudan, although OPIC's funds are restricted to Uganda and Tanzania.

\$11.5 million to over \$240 million within 10 years. BRAC's holistic approach to poverty reduction includes both economic development (microfinance lending, development of market linkages and value chains and livestock and agricultural technical assistance) and social development (healthcare, education, and life skills training for adolescent girls). In addition to offering BRAC's core micro-lending product, selected branches will offer larger individual loans to small entrepreneurs under the Small Enterprise Program. The average loan size for this product is expected to start at \$1,500 and grow to \$4,235.

#### Standard

One of the highest-scoring projects on the standard developmental matrix that OPIC supported in FY 2009 involved a \$10 million investment by Tivannah USA and two U.S. small businesses, Ernest Maier and Quinn Consulting, to expand the operations of Tivannah Global, LDA, an Angolan manufacturer of building materials. The factory, which began operations in 2005, produces approximately 2,500 concrete blocks per day. Tivannah plans to use this investment to install concrete block and paver plants and to procure state-of-the-art quarry-mining equipment. This increase in plant capacity, technology, and expertise should allow Tivannah to move into production of higher quality and higher profit products. The increased plant capacity is expected to allow Tivannah to expand production to include structural blocks, architecturally distinct blocks, concrete pavers, decorative masonry units, multiple granulations of gravel and crushed stone, and overall higher quality and lower priced goods. Tivannah also plans to purchase a trucking fleet to address the shortcomings of the domestic delivery systems.

The developmental impact of this investment will be significant. The project will create jobs in the rural Angolan region of Cacuaco. Furthermore, the project will contribute to infrastructure improvements in Angola. The company's production of construction and building materials will be used to create new residential and commercial buildings, as well as public goods like sidewalks and roads. There will also be significant knowledge and technology transfer. The two U.S. small business investors, Ernest Maier and Quinn Consulting, will provide on-going support through training and management consulting to ensure the implementation of best industry practices and standards.

In Fiscal Year 2009, OPIC focused its activities in low- and middle-income developing countries, providing an important source of employment and tax revenue for these economies.

The projects supported by OPIC in FY 2009 will provide significant economic and social benefits for developing host countries. The projects are expected to directly generate 11,455 jobs in developing countries directly, of which 6,629 (or 58 percent) are projected to be in skilled (management and professional) positions.

Eighty percent of the projects that OPIC supported in Fiscal Year 2009 are in low- and middle-income countries, demonstrating OPIC's success in fulfilling its mission to focus on countries most in need. Thirty-five projects (30 percent) are located in low-income countries, such as Afghanistan and Ghana, while 59 projects (50 percent) are located in middle-income developing countries, such as Georgia and South Africa. Twenty-three projects (20 percent) are located in high-income countries, with 12 of those projects in Russia, Turkey, and Chile – countries that "graduated" from medium-income to high-income this year.

The total initial host-country expenditures for Fiscal Year 2009 projects are projected to be \$4.3 billion. This procurement of local raw materials, services, and semi-finished goods will support economic activity and employment in the host countries. The OPIC-supported foreign enterprises

<sup>&</sup>lt;sup>7</sup> As defined in OPIC's statute, low-income countries are classified as those with per capita GNP of \$984 or less in 1986 dollars. Middle-income countries are those with per capita GNP of \$985-\$4,268 in 1986 dollars.

are expected to generate \$264 million annually in taxes and duties for the host countries. Once in operation, the projects will generate an estimated \$229 million in annual export earnings for the host countries. Approximately 90 percent of the output associated with FY 2009 projects will be sold in host country markets. Exhibit 2 on page 38 shows a break-out of the final destination of output for FY 2009 investments over the first five years of operation for projects that will export to third countries.

<sup>&</sup>lt;sup>8</sup> This estimate includes host government revenues generated by large public infrastructure projects OPIC supported this year, including a toll road in Mexico.

#### Table 2

# Estimated Developmental Impacts of Fiscal Year 2009 Projects

**Amount or Number Host Country** (millions of \$ or **Effects** # workers) A. Foreign exchange benefits 1 **Exports** generated \$229 million Imports replaced \$99 million Total A \$328 million B. Foreign exchange costs <sup>1</sup> Capital outflows \$717 million **Project imports** \$150 million Total B \$867 million Net foreign exchange impact (A less B) 1 (\$539) million Net annual taxes, revenues and duties paid to the host country 1 \$264 million

Initial local expenditures \$4,266 million

Local employment generated in fifth year of operation

Technical and management 6,629 workers
Unskilled labor 4,826 workers
Total 11,455 workers

<sup>&</sup>lt;sup>1</sup> Average annual amount over a 5-year forecast period.

# III: ENVIRONMENTAL, HEALTH, SAFETY & SOCIAL IMPACTS

The Environmental, Health, Safety, and Social Impacts section of OPIC's 2009 Policy Report represents the 12<sup>th</sup> year of reporting on environmental, health and safety considerations of OPIC-supported projects. This section replaces and continues the reporting of these environmental and social considerations in what had been previously reported in a stand-alone OPIC Annual Environmental Report. Specifically, this section will report information related to environmental, health, safety, and social screening and assessment, annual greenhouse gas reporting, as well as introduce and summarize other environment and social-related policy matters undertaken by OPIC during the previous fiscal year.

#### **Fiscal Year 2009 New Initiatives Summary**

Since 1985 OPIC has had a strong mandate to insure that OPIC supports projects that minimize adverse environmental, health, safety and social risks. In Fiscal Year 2009, OPIC announced a new commitment to transparency and significantly expanded the volume and breadth of information it discloses to the public about the projects the agency supports, as well as enhanced opportunities for public comment on environmentally or socially sensitive projects. In FY 2009, OPIC also expanded its efforts to increase support for the development of clean and renewable energy projects and strengthened its policies related to climate change mitigation. In addition, in FY 2009, OPIC expanded its definition of a Category A project to include all projects that are expected to produce significant emissions of greenhouse gases (> 100,000 tons of carbon dioxide equivalents per year).

#### **Project Screening and Assessment**

OPIC screens all applications to identify the risk of potential adverse environmental and social impacts of a project and to identify project impacts that could preclude OPIC support on categorical grounds. If a project is determined to be categorically ineligible, OPIC immediately informs the applicant so as to avoid any unnecessary effort or expense. If the project is categorically eligible, OPIC categorizes the project to determine the requirements for documentation, disclosure, consultation, reporting and post-commitment monitoring. Projects may be categorized as A, B, C or D, with Category A representing the greatest potential for adverse environmental and/or social impacts.

### OPIC uses a rigorous methodology for assessing and calculating potential environmental and social impacts.

Environmental and social assessment is the process used by OPIC to evaluate the environmental and social impacts of an applicant's project and to identify the means to improve the project by preventing, minimizing, remediating or compensating for potential adverse impacts as a condition of OPIC support. The process includes the following:

- Identification of potential adverse environmental and social impacts;
- Disclosure of the project's environmental and social impact assessment (ESIAs) for public review and comment (if the project has been screened as Category A);
- Comparison of the project's performance in relation to internationally-accepted standards and alternative approaches;
- Evaluation or design of mitigation measures;
- Evaluation or design of associated management and monitoring measures.

Two of the 117 projects that OPIC provided a commitment to in Fiscal Year 2009 (or two percent of all projects) were screened as Category A, or projects with the potential to have significant adverse environmental and/or social impacts and that are sensitive, diverse or unprecedented in the absence of adequate mitigation measures. One of the two Category A projects involves construction and operation of a water supply pipeline in Jordan, and the other involves placer gold mining in Mongolia. Both projects required the preparation of full ESIAs, which were subsequently disclosed to the public for comment.

Fifty-two (44 percent) of the 117 OPIC-supported projects were screened as Category B. Category B projects are likely to have environmental and/or social impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures.

Sixty-three Fiscal Year 2009 projects (54 percent) were screened as Category C projects. Category C projects are likely to have minimal or no adverse environmental and/or social impacts.

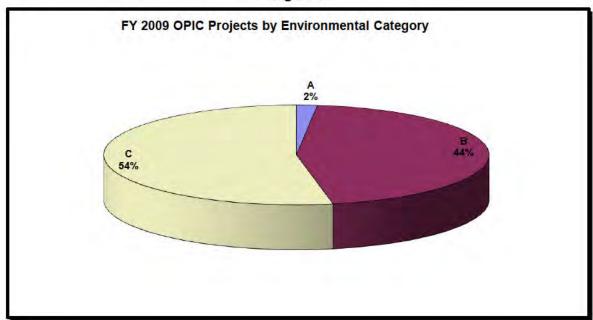


Figure 4

To avoid double counting and confusion, OPIC is no longer reporting on Category D projects in this annual report. Category D is reserved for OPIC guarantees to financial intermediaries such as investment funds or financial institutions that make investments in or provide financing to identifiable projects or enterprises ("Subprojects") engaged in activities within Categories A, B or C. Subproject investments are assessed and monitored by OPIC and are included within the annual project counts.

#### The Office of Investment Policy reviewed 153 projects during Fiscal Year 2009.

A more complete picture of OPIC's environmental and social activities can be illustrated by the 153 prospective insurance and finance projects reviewed by the Office of Investment Policy during FY 2009. OPIC provided a commitment to 67 of these 153 projects in FY 2009; of the remaining 86 projects, many continue to be reviewed on credit, underwriting, or policy grounds and may ultimately receive OPIC support.

As illustrated in Figure 5, of the 153 environmental and social reviews completed by OPIC's Office of Investment Policy during FY 2009, seven projects (5 percent) were categorized as Category A. The projects included a water supply project in Jordan, a gas and oil processing project in Egypt, a salt extraction project in Djibouti, and two hydroelectric projects in Mexico, and two hydroelectric projects in Brazil.

The 27 projects (18 percent) screened as Category B involved housing construction, provision of humanitarian relief services, small manufacturing operations, small agribusinesses, and leasing operations, among others. The 118 projects (77 percent) classified as Category C that were reviewed in FY 2009 included telecommunications, cable television, mortgage financing, onlending to microfinance institutions, and other banking activities.

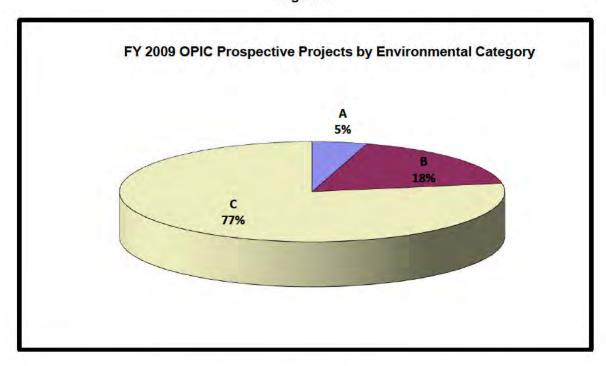


Figure 5

The Environment Group conducts pre-approval site visits on all Category A projects.

As part of OPIC's environmental and social assessment process, OPIC environmental officers conduct on-site due diligence prior to a commitment of OPIC support to any project screened as Category A. In addition, environmental officers also periodically visit projects at the screening stage to determine categorical eligibility. OPIC conducted pre-approval site visits to nine projects in six countries in Fiscal Year 2009 including:

- an oil and gas exploration project in Egypt;
- two hydroelectric projects in Brazil;

- a salt extraction and processing project in Djibouti;
- a chlor-alkali plant in Trinidad and Tobago;
- an airport renovation project in Costa Rica; and
- three hydroelectric projects in Mexico.

#### OPIC publishes information on all Category A projects for public comment.

In FY 2009, eight potential Category A projects under consideration for OPIC support were disclosed on OPIC's website for 60 days and announced via the OPIC list server, giving the public and non-governmental organizations full opportunity to review the ESIAs or Baseline Audits, and to comment on the projects' environmental and social impacts. All Category A transactions that required approval by OPIC's Board were publicly disclosed for at least 60 days prior to the Board vote on the transactions. Full text versions of ESIAs and Baseline Audits were available for download directly from the OPIC website.

In response to the posting of the ESIA's for these eight projects, public comments were received for one project, a gold mining project in Mongolia. OPIC's Environment Group closely reviewed and analyzed the comments and provided written responses to the author of the comments. A summary of the concerns posited and OPIC's written responses were released to the public.

#### Transactions rejected on environmental and/or social grounds

OPIC rejected three applications in FY 2009 on the basis of categorical ineligibility. These projects included a forestry project in Guiana, a rubber plantation in Liberia, and a housing estate project in Zambia. The projects in Guiana and Liberia were categorically ineligible due to their potential impact on critical forest areas. The project in Zambia was categorically ineligible due to its location in or near a high hazard area. For reasons of business confidentiality, OPIC does not disclose the name of investors, borrowers, foreign enterprises, or projects at issue.

#### **OPIC** announces new commitment to transparency

In April 2009, OPIC Management announced a significant expansion of the volume and breadth of information about projects the agency supports that OPIC would disclose to the public. In particular, OPIC expanded the opportunity for public comment on environmentally or socially sensitive projects proposed for support. For all Category A projects and projects scheduled to come before the OPIC Board of Directors, OPIC posts to its website detailed project summaries at least 40 days before OPIC makes a decision to support the projects. Moreover, public comment now is invited and considered by OPIC before the agency makes a decision to support those projects. Other new steps include posting of summaries on all OPIC-supported projects (140 project summaries posted in FY 2009), posting of summaries of findings of third party audits, and quarterly listings of sub-projects supported under OPIC's investment fund program.

These new measures build on transparency initiatives in recent years under which OPIC has enhanced its internal due diligence procedures and has encouraged project sponsors to engage in meaningful, inclusive and culturally appropriate consultation with local stakeholders during all phases of project development and to require such consultation on projects with the potential for significant social impacts.

#### OPIC expands support for renewable energy and clean technology projects

With a focus on long-term development, OPIC works to support projects that tie economic viability to environmental sustainability. Oftentimes this means powering growth with alternative forms of

electricity production and newer, cleaner technologies. OPIC's outreach program in renewable energy and clean technology over the past two years has resulted in the agency's consideration of more than 100 proposals totaling \$2 billion in the areas of biomass, solar, wind, hydro and geothermal power generation, water purification and distribution, green housing and clean fuels. Despite challenging credit and equity markets over the past year, OPIC-supported renewable energy investment funds, approved by OPIC's Board of Directors in September 2008, are poised to begin making investments in clean fuels, hydro and solar energy. Examples of OPIC-supported renewable energy projects include the following:

#### **Azure Power**

The project involves a \$6.23 million OPIC loan to Mr. Inderpreet Wadhwa to invest in Azure Power Punjab Limited. The project involves the construction of 2 MW of photovoltaic power in the state of Punjab, India. The project was profiled in the international press as the first MW-scale independent power project solar facility to sell clean, sustainably generated electricity to India's grid system. This renewable energy project will provide power to thousands of homes in communities in rural India for the first time.

#### E+Co

The project involves a \$10 million OPIC loan to E+Co, used to make loans to small and medium enterprises (SMEs) for small-scale energy efficiency and renewable energy projects. E+Co is a U.S. non-profit company that provides financial planning, market assessment, technology and/or project financing for clean energy SMEs in Africa, Asia and Latin America. The investment will enhance E+Co's engagement in clean energy enterprise development and will broaden its investment in companies that employ various technologies including solar, energy efficiency, fuel substitution, hydro, biomass, and wind.

#### Oriental Green Power Pte. Ltd.

The project involves a \$7.5 million investment made by OPIC-supported Asian Development Partners Fund II in a leading renewable energy producer in India, Oriental Green Power Pte. Ltd. Oriental Green Power is a private entity that invests in renewable energy assets around the world. The Oriental Green Power investment will be used to construct the company's initial sixteen projects which include biomass, wind, small hydro, and biogas projects. The projects are all located in India and are estimated to produce a total of 216.5 MW of renewable energy.

On a transactional basis OPIC is also considering reduction and control alternatives for all projects, including opportunities for energy and operational efficiencies and to protect and enhance sinks for greenhouse gases. OPIC is developing financial products and structures that will make it more attractive for project developers to incorporate energy efficient elements in project designs. Many OPIC-supported projects already incorporate energy efficiency improvements in capital expenditure planning including the following:

#### Açai do Amapá Agroindustrial Ltda.

The project involves a \$3.712 million direct OPIC loan to construct an açai berry processing facility in Santana, Amapá, Brazil and to fund operations to supply açai products for export and local markets. The company has taken steps to reduce energy consumption during the past three years through the selection of efficient equipment, re-dimensioning motors, changing power motors from 220V to 380V, replacement of light bulbs, lengthening production runs, and training employees in energy conservation. As a result of these steps, the company has reduced energy requirements by 25 percent.

#### Climate Change Mitigation

On June 14, 2007, OPIC announced its Greenhouse Gas/Clean Energy Initiative to systematically evaluate, monitor, and report on OPIC's investment decisions and to demonstrate to OPIC's stakeholders OPIC's progress in reducing climate change impacts in our investment decision making.

OPIC initiated a four-part plan to address the issue of greenhouse gas (GHG) emissions and increase support for clean energy and green technology: (1) reduce the emissions profile of OPIC's portfolio; (2) establish an annual transactional cap to constrain the addition of large carbon emitting projects to the portfolio; (3) support energy efficiency, renewable & clean technology; and (4) enhance accounting and transparency.

#### OPIC is committed to reducing direct GHG emissions.

As part of its Greenhouse Gas/Clean Energy Initiative, OPIC has committed to: (a) reduce the direct GHG emissions associated with projects in OPIC's active portfolio as of June 30, 2008 (i) by 30 percent over a ten-year period; and (ii) by 50 percent over a 15-year period [as required under Section 7079(b) of Public Law 111-117 (FY 2010 Omnibus)]; and (b) shift investment support focus to renewable and energy efficient projects.

For the purpose of tracking progress in achieving its GHG reduction goals, in 2008 OPIC procured the services of an outside auditor, Pace Global Energy Services LLC (Pace), to develop a baseline GHG inventory of existing OPIC supported projects. The organizational boundary for the inventory was defined as 100 percent of on-site emissions from the calendar year 2007 for all projects within OPIC's active portfolio as of June 30, 2008 (baseline emissions). The organizational boundary is consistent with the voluntary Scope 3<sup>9</sup> emissions reporting methodology that OPIC adopted in 2004. Under that approach, OPIC reported 100 percent of direct emissions from its active projects' portfolio. Accounting for 100 percent of project emissions is more conservative than the equity or operation control approach that is commonly used in greenhouse gas accounting. OPIC's accounting is limited to direct emissions because these emissions are verifiable and directly attributable to the project activity that is benefiting from OPIC's support.

OPIC estimates greenhouse gas emissions from all projects that have significant direct emissions, which have been defined as emissions exceeding 100,000 tons of carbon dioxide equivalents ( $CO_{2eq}$ ) per year. In order to account for GHG emissions from active projects in OPIC's portfolio that have less than 100,000 tons of  $CO_{2eq}$ , OPIC adds an extra 5 percent emissions to the aggregate emissions number. The addition of 5 percent to account for such sources is consistent with the GHG accounting methodology of the Climate Registry. <sup>10</sup>

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<sup>&</sup>lt;sup>9</sup> Under the World Resource Institute's Greenhouse Gas Protocol, corporations choose to report emissions based on either an equity share or a financial or operational control basis. In other words, a corporation chooses to report either a share of a facility's emissions consistent with its equity ownership or it chooses to report all emissions from a facility (regardless of share ownership) based on its having operational or financial control of the facility. The corporation then assesses two types of emissions (Scope 1 and Scope 2) and may assess a third type of emissions (Scope 3). Scope 1 emissions are direct emissions; Scope 2 emissions are indirect emissions associated with purchased electricity; and Scope 3 emissions are other indirect emissions, which can involve any indirect emissions associated with the lifecycle of products or services associated with the company's activities (other than those associated with purchased electricity, i.e., Scope 2 emissions). Reporting of Scope 1 and Scope 2 emissions is mandatory while reporting of Scope 3 emissions is voluntary.

<sup>10</sup> THE CLIMATE REGISTRY is a nonprofit collaboration among North American states, provinces, territories and Native Sovereign Nations that sets consistent and transparent standards to calculate, verify and publicly report greenhouse gas emissions into a single registry. The Registry supports both voluntary and mandatory reporting programs and provides comprehensive, accurate data to reduce greenhouse gas emissions. The 5% value is from The Climate Registry's

OPIC believes this additional 5 percent is conservative because a significant percentage of the number of projects in OPIC's portfolio (over half) are in sectors that are not expected to result in significant direct emissions (e.g. financial services, telecommunications, home construction). Pace confirmed this by estimating GHG emissions from the calendar year 2007 for all projects in OPIC's portfolio as of June 30, 2008 that were expected to emit more than 25,000 short tons but less than 100,000 short tons. Emissions from these projects were estimated to be less than 740,773 tons of  $\rm CO_{2eq}$  or 1.5 percent of the aggregate GHG emissions from projects included in the baseline. Hence, the provision to add 5 percent to aggregate GHG emissions is conservative. Appendix 1 presents Pace's Report on GHG emissions from projects that are expected to emit more than 25,000 short tons but less than 100,000 short tons. The 25,000 short ton threshold was selected to match the U.S. Environmental Protection Agency's threshold criteria for significant GHG emissions.  $^{11}$ 

OPIC calculates GHG emissions from projects in its active portfolio using methodologies and algorithms that rely on activity data such as fuel consumption or gas/oil throughput. In most cases, OPIC uses methodologies approved by the Climate Registry. For emissions from sources without Registry-approved methodologies, OPIC uses emission estimates provided by the U.S. Environmental Protection Agency. For project-specific information on the methodologies and assumptions used in emission estimates, see OPIC's 2008 Policy Report (http://www.opic.gov/sites/default/files/docs/fy08\_annual\_policy\_report\_040809.pdf).

Following the completion of the independent audit by Pace, OPIC provided investors the opportunity to comment on the Independent Auditor's estimate, activity data, and methodology. Estimates and comments received from investors are provided in Table 3.

Baseline emissions which were calculated for calendar year 2007 for projects active as of June 30, 2008 were estimated to be 50,229,853 tons of  $CO_{2eq}$ . Based on the independent audit findings, the estimated calendar year 2008 inventory of GHG emissions from all significant projects that were active as of September 30,  $2009^{12}$  is 31,700,544 tons of  $CO_{2eq}$  (Appendix 2). The total is based on Pace's estimate unless the Investor provided data indicative of actual operating conditions. Five percent was then added to the total to account for GHG emissions from active projects in OPIC's portfolio that have less than 100,000 tons of  $CO_{2eq}$ ; thus, the total inventory of GHG emissions for calendar year 2008 for projects active as of September 30, 2009 is 33,285,571 tons of  $CO_{2eq}$ .

General Reporting Protocol, Version 1.1, May 2008, p. 58. Available online at http://www.theclimateregistry.org/downloads/GRP.pdf.

<sup>&</sup>lt;sup>11</sup> The U.S. Environmental Protection Agency's threshold criteria for significant GHG emissions is 25,000 metric tons. To maintain consistency with units, OPIC uses 25,000 short tons, which is conservative since 25,000 metric tons converted to short tons equals approximately 27,500 short tons.

<sup>&</sup>lt;sup>12</sup> Because OPIC operates on the fiscal year, starting with calendar year 2008 emissions, OPIC decided to align GHG accounting with the fiscal year by estimating emissions for those projects active as of September 30, 2009.

Table 3: 2008 OPIC GHG Emissions Inventory Estimate by Project (short tons CO<sub>2eq</sub>/year)

Tier	Project Name	Location	Description	Capacity / Throughput	Fuel Type	Maximum Potential to Emit Emissions (short tons CO <sub>2</sub> )	Baseline Emissions (short tons CO <sub>2</sub> )	2008 Investor Reported Emissions (short tons CO <sub>2</sub> )	2008 Final Emissions (short tons CO <sub>2</sub> )
Α	Adapazari Elektrik Uretim	Turkey	Combined Cycle	777 MW	Natural Gas	2,706,499	2,106,754	2,106,754	2,106,754
Α	AES Jordan <sup>1</sup>	Jordan	Combined Cycle	10,103,603 MMBtu/yr	Natural Gas	1,288,809	0	590,940	590,940
Α	AES Nigeria Barge	Nigeria	Engine-Based Power Generation	270 MW	Natural Gas	1,603,307	1,166,398	1,341,157	1,341,157
Α	Doga Enerji	Turkey	Combined Cycle	180 MW	Natural Gas	816,057	740,762	740,762	740,762
Α	Gaza Private Generating PLC <sup>2</sup>	Gaza	Combined Cycle	136.4 MW	Natural Gas	487,658	293,804	303,535	303,535
Α	Gebze Elektrik Uretim	Turkey	Combined Cycle	1554 MW	Natural Gas	5,412,998	4,121,923	4,121,923	4,121,923
А	Grenada Electricity Services (WRB)	Grenada	Engine-Based Power Generation	18 MW	Diesel (Fuel Oil)	104,604	114,571	121,156	121,156
Α	Habibullah Coastal Power	Pakistan	Combined Cycle	140 MW	Natural Gas	487,658	447,880	447,880	447,880
Α	Isagen SA <sup>3</sup>	Colombia	Combined Cycle	300 MW	Natural Gas	696,654	203,010	-	-
Α	Izmir Elektrik Uretim	Turkey	Combined Cycle	1554 MW	Natural Gas	5,412,998	4,694,380	4,694,380	4,694,380
Α	Jorf Lasfar Energy⁴	Morocco	Steam Boiler	1356 MW	Coal	14,268,496	14,268,496	-	-
Α	NEPC Consortium Power	Bangladesh	Engine-Based Power Generation	363,184 MMBtu/yr	Natural Gas	383,159	245,795	343,581	343,581
Α	Paiton Energy	Indonesia	Steam Boiler	1200 MW	Coal	7,938,380	9,553,044	9,553,044	9,553,044
Α	Pakistan Water & Power Authority	Pakistan	Combined Cycle	150 MW	Natural Gas	522,490	522,490	522,490	522,490
Α	Termovalle SCA <sup>5</sup>	Colombia	Combined Cycle	199 MW	Natural Gas	714,070	0	-	-

Tier	Project Name	Location	Description	Capacity / Throughput	Fuel Type	Maximum Potential to Emit Emissions (short tons CO <sub>2</sub> )	Baseline Emissions (short tons CO2)	2008 Investor Reported Emissions (short tons CO2)	2008 Final Emissions (short tons CO2)
Α	Trakya Elektrik Uretim ve Ticaret <sup>6</sup>	Turkey	Combined Cycle	478 MW	Natural Gas	1,818,912	1,747,956	-	-
В	Accroven SRL <sup>7</sup>	Venezuela	NGL Facility	800 MMscfd	Natural Gas	998,677	998,677	445,832	445,832
В	Baku-Tblisi-Ceyhan Pipeline	Azerbaijan	Crude Oil Pipeline	247 million bbl	Natural Gas & Diesel	699,034	707,672	707,672	707,672
В	E.P. Interoil	Papua New Guinea	Crude Oil Refinery	358,798 MMBtu/yr	Crude Oil	802,469	392,296	103,247	103,247
В	Equate Petrochemical <sup>8</sup>	Kuwait	Petrochemical Facility	1540 MMBtu/hr	Natural Gas	720,573	720,573	680,311	680,311
В	Foxtrot International	Cote d'Ivoire	Gas Extraction & Pipeline	1736 MMscf/yr	Natural Gas	270,804	104,484	104,484	104,484
В	Natural Gas Liquids II Financing	Nigeria	NGL Facility	19.5 MMscfd	Natural Gas	390,806	244,048	-	244,048
В	Various Egypt Subsidiaries (Apache)	Egypt	Oil/Gas Extraction & Processing	29,934,702 bbl/yr & 89,910 MMscf/yr	Oil & Natural Gas	1,190,476	1,505,247	1,589,653	1,589,653
В	Wilpro Energy Services (El Furrial)	Venezuela	Gas Compression	60 MW	Natural Gas	289,106	289,106	-	289,106
В	Wilpro Energy Services (Pigap)	Venezuela	Gas Compression	100 MW	Natural Gas	507,923	571,090	-	571,090
N/A	Latin America Power III <sup>9</sup>	Latin America	Fund	N/A	N/A	2,077,500	2,077,500	2,077,500	2,077,500
	Subtotal:						47,837,955		31,700,544
	5% for Additional Sources <sup>10</sup> :						2,391,898		1,585,027
	Grand Total <sup>11</sup> :						50,229,853		33,285,571

#### Footnotes:

- AES Jordan: Operated for less than 8,000 hours in 2008.
- Gaza Private Generating PLC: Operated less than 8000 hours in 2008.
- Isagen SA: Emissions for 2008 were 16,746 tons of CO<sub>2eq</sub>, as reported by the Sponsor. However, since they operated only a few days in 2008 their emissions were excluded from the 2008 Inventory.
- Jorf Lasfar Energy: Emissions for 2008 were 14,268,496 tons of CO<sub>2eq</sub>, as reported by the Sponsor. However, since this project was no longer in OPIC's portfolio as of September 30, 2009 it is not included in the 2008 Inventory.
- Termovalle SCA: Emissions for 2008 were 46,213 tons of CO<sub>2eq</sub>, as reported by the Sponsor. Emissions are less than 100,000 tons of CO<sub>2</sub> Eq. but an increase in operating hours in future years is expected.
- Trakya Elekrik Uretim Ve Ticaret: Emissions for 2008 were 1,484,377 tons of CO<sub>2eq</sub>, as reported by the Sponsor. However, since this project was no longer in OPIC's portfolio as of Sep 30, 2009 it is not included in the 2008 Inventory.
- Accroven: Sponsor provided feedback for 2007 in form of report but did not include GHG information. As a result, the PTE was used for 2007.
- <sup>8</sup> Equate Petrochemical: Sponsor provided feedback for 2007 after the 2008 OPIC Annual Policy Report was issued. Actual 2007 operating emissions were 680,311 tons of CO<sub>2ea</sub>. Increased emissions due to additional projects that increased capacity.
- Per agreement between Latin American Power III and OPIC, the Fund agreed not to "make an investment in a Portfolio Company if after such investment, the assets and operations of all Portfolio Companies then held by the Fund would emit (in the aggregate and on a calendar year basis) in excess of 2,077,500 tons of CO<sub>2eq</sub> as calculated in accordance with the IPCC".
- In order to account for GHG emissions from active projects in OPIC's portfolio that have less than 100,000 tons of CO<sub>2eq</sub>, OPIC adds an extra 5 percent emissions to the aggregate emissions number. The addition of 5 percent to account for such sources is consistent with the GHG accounting methodology of the Climate Registry.
- Projects that were no longer in OPIC's portfolio as of Sep 30, 2009 were not included in the 2008 analysis.

Table 4 compares GHG emissions from projects in OPIC's portfolio for the baseline and 2008 years. As seen in Table 2, GHG emissions from projects in OPIC's portfolio were reduced by 16,944,282 tons of  $CO_{2eq}$ . (from 50,229,853 to 33,285,571 tons of  $CO_{2eq}$ ) indicating that OPIC is on track to achieve its 30 percent reduction in 10 years and 50 percent in 15 years. As per Section 7079(b) of Public Law 111-117 (FY 2010 Omnibus), OPIC is required to achieve a 30 percent reduction in GHG emissions from the 50,229,853 tons of  $CO_{2eq}$  that were emitted by projects in the baseline (15,068,956 tons of  $CO_{2eq}$ ) by September 30, 2018. Similarly, OPIC is mandated by Section 7079(b) of Public Law 111-117 (FY 2010 Omnibus) to reduce GHG emissions by 25,114,927 tons of  $CO_{2eq}$  by September 30, 2023, representing a 50 percent reduction from 50,229,853 tons of  $CO_{2eq}$  that were emitted by projects in the baseline. OPIC's policy to constrain the addition of projects that have the potential to emit high levels of GHG emissions to the portfolio will help OPIC in meeting its commitments of 30 percent GHG emissions reduction in 10 years and 50 percent reduction in 15 years.

Table 4: OPIC Baseline and Calendar Year 2008 CO<sub>2</sub> Emissions (in short tons)

	BASELINE EMISSIONS	CALENDAR YEAR 2008	REDUCTION	IN	GHG
		EMISSIONS	EMISSIONS		
OPIC	50,229,853	33,285,571		16,94	44,282

<sup>\*</sup>Baseline emissions are those estimated for calendar year 2007 for projects active as of June 30, 2008.

#### Fiscal Year 2009 Reporting

As illustrated in Table 5, OPIC reports no direct (Scope 1) emissions associated with its activities because OPIC has no direct  $CO_2$  emissions. OPIC reports indirect (Scope 2) emissions totaling 1,329 short tons of  $CO_{2eq}$  associated with its purchase of electricity. OPIC is reporting as Scope 3 emissions for 2009 the direct GHG emissions associated with projects with emissions exceeding 100,000 tons of  $CO_{2eq}$  per year that were in OPIC's active portfolio as of September 30, 2009. In the past, OPIC reported as Scope 3 emissions the direct emissions associated with projects with emissions exceeding 100,000 tons of  $CO_{2eq}$  per year that were in the OPIC's active portfolio on June 30, 2008 but the reporting date for 2009 was shifted to September 30 to match the end of the fiscal year which is the basis for the annual report.

Table 5: OPIC Fiscal Year 2009 CO<sub>2</sub> Emissions (in short tons)

	SCOPE 1 EMISSIONS	SCOPE 2 EMISSIONS	SCOPE 3 EMISSIONS
OPIC	0	1,329	33,285,571

OPIC provided commitments to two major GHG emitting projects in the FY 2009 that were estimated to have total GHG emissions of 787,000 tons of  $CO_{2eq}$ . Apache, a gas and oil processing project located in Egypt, was estimated to emit 260,000 tons of  $CO_{2eq}$  and Contour Global, a power generation project in Togo, was estimated to emit 527,000 tons of  $CO_{2eq}$ . OPIC reported the Contour Global project in the 2008 OPIC Policy Report but did not actually disburse funds until FY 2009.

On a transactional basis, OPIC considers reduction and control alternatives for all projects, including opportunities to enhance energy and operational efficiency; protect and enhance sinks and reservoirs of greenhouse gases, such as natural forests, and the application of emerging technologies for capture, storage, and recovery of greenhouse gases.

The Environmental, Health and Safety Impacts section of OPIC's 2008 Policy Report represents the 11<sup>th</sup> year of reporting on environmental, health and safety considerations of OPIC-supported projects. This section replaces and continues the reporting of these environmental considerations in what had been previously reported in a stand-alone OPIC Annual Environmental Report. Specifically, this section will report information related to environmental, health and safety screening and assessment, annual

greenhouse gas reporting as well as introduce and summarize any other environment-related policy matters undertaken by OPIC during the previous fiscal year.

#### IV. LABOR AND HUMAN RIGHTS

#### **Labor Rights**

#### OPIC tracks countries' eligibility as part of its statutory obligations.

OPIC programs are subject to a country-level statutory criterion, specifically whether a country is taking steps to adopt and implement "internationally recognized worker rights," as defined under the Trade Act of 1974. The Generalized System of Preferences ("GSP") program, a trade benefits program overseen by the Office of the U.S. Trade Representative ("USTR"), has parallel statutory requirements for GSP beneficiary countries. For U.S. Government-wide consistency on country-level determinations based on this particular "taking steps" standard, OPIC follows the USTR's actions on country eligibility for the GSP program on worker rights grounds.

OPIC tracks the USTR's petition-and-review process for country eligibility on worker rights grounds, including their Trade Policy Staff Committee's ("TPSC") final determinations on these reviews. For countries that are ineligible for the GSP program on grounds other than worker rights, OPIC utilizes a similar petition-and-review process for country eligibility on worker rights grounds. During Fiscal Year 2009, no countries regained their GSP benefits on worker rights grounds, and hence their eligibility for OPIC programs. Similarly, no countries became ineligible for GSP benefits or OPIC programs on worker rights grounds. However, for its 2009 GSP Annual Review, the USTR continues to formally review the GSP eligibility of the following countries on worker rights grounds: Bangladesh, Niger, Uzbekistan, and the Philippines. Furthermore, the USTR received petitions challenging the GSP eligibility of Iraq and Sri Lanka on worker rights grounds. The decision regarding whether to accept these new country practice petitions for formal review is expected to be announced in the spring of 2010. OPIC will implement in its own programs the TPSC's final determinations of these countries' GSP eligibility.

Historically, as a result of USTR's GSP and/or OPIC's own determinations, OPIC programs have been suspended in 15 countries <sup>13</sup> on account of their failure to meet the statutory "taking steps" standard. In a number of those countries, including Liberia and Chile, GSP and OPIC programs have been restored as a result of progress in adopting and implementing internationally recognized worker rights standards. At the present time, the following countries remain ineligible for OPIC programs on worker rights grounds: Belarus, China, Qatar, Saudi Arabia, Sudan, and the United Arab Emirates.

#### OPIC places contractually binding worker rights conditions on every project it supports.

At the project level, OPIC requires that projects do not "contribute to violations of internationally recognized worker rights." These rights include: the right of association; the right of organization and collective bargaining; a prohibition on forced or compulsory labor; minimum age for employment and a prohibition on the worst forms of child labor; and acceptable conditions of work with respect to minimum wages, hours of work, and occupational health and safety. OPIC includes statutorily required standard worker rights language in every insurance contract, and every finance and investment funds agreement. The language prohibits explicitly the use of forced labor and requires the investor to respect the rights of association, organization, and collective bargaining, and to observe applicable laws with respect to minimum age and wage requirements, hours of work, and occupational health and safety.

<sup>&</sup>lt;sup>13</sup> Historically, these countries include: Belarus, China, Maldives, Sudan, UAE, Saudi Arabia, Qatar, Liberia, Central African Republic, Chile, Nicaragua, South Korea, and Mauritania. Some countries (e.g., Chile and Liberia) regained GSP and/or OPIC eligibility as a result of steps taken to implement internationally recognized worker rights standards.

In certain cases, the applicable laws of the host country or the implementation of such laws may not meet internationally recognized worker rights standards. In these instances, and as a condition of OPIC support, OPIC requires further that the investor meet the relevant International Labor Organization's ("ILO") standards for internationally recognized worker rights through additional contractually-binding conditions. Such contract conditions typically refer, though are not limited, to non-discrimination on account of union activities, minimum age of workers, payment of minimum wages, timely payment of wages, limits on hours of work, and rights related to hazardous work situations.

## In addition to reviewing the 117 OPIC-supported projects, the Office of Investment Policy reviewed 140 additional projects during Fiscal Year 2009.

A more complete picture of OPIC's project-by-project labor and human rights reviews can be illustrated by the 257 total insurance and, finance projects reviewed by the Office of Investment Policy during FY 2009. A number of these projects continue to be reviewed on credit, underwriting, or policy grounds and may ultimately receive OPIC support.

In FY 2009, all of the 117 OPIC-supported projects were subject to a full worker rights review, and OPIC support was conditioned upon contractual adherence to internationally recognized worker rights standards. Supplemental contract conditions addressing one or more of these rights were included in an overwhelming majority of the project contracts and agreements.

### The Labor and Human Rights Group conducts on-site due diligence for particularly sensitive projects.

For projects deemed particularly sensitive upon initial project review, OPIC may conduct additional due diligence at the project site prior to issuing approval on worker rights or human rights grounds. A variety of factors may determine whether a potential project warrants on-site due diligence, including general country- or sector-level labor and human rights sensitivities, location, project size and size of workforce, potential for the use of child and/or forced labor, and the nature of the work conducted at the project, including the level of hazardous work activity. In FY 2009, the Labor and Human Rights Group conducted on-site due diligence in Peru for a project that provides financial support to fair-trade certified coffee cooperatives.

#### **Human Rights**

The promotion of respect for basic human rights is essential to successful OPIC-supported projects, and OPIC recognizes the importance of human rights in its programs and project evaluation process. The OPIC human rights clearance process is designed to ensure that OPIC-supported projects meet their statutory requirements, as required by the Foreign Assistance Act. For all potential projects, OPIC works in close consultation with the U.S. Department of State's Bureau for Democracy, Human Rights and Labor ("DRL"), prior to making a final commitment. Since 1990, OPIC programs have been suspended by statute in the People's Republic of China.

In FY 2009, OPIC continued to collaborate with DRL on the human rights clearance process by utilizing a quarterly system of updates to keep apprised of human rights matters that could be impacted by potential OPIC projects. Every project considered for OPIC financing, insurance or for investment by an OPIC-supported investment fund in FY 2009 was subject to a human rights review.

OPIC focuses attention on human rights at projects in all sectors and supports multi-stakeholder initiatives such as the "Voluntary Principles on Security and Human Rights." The Principles provide

guidance on safety, security, and human rights for companies in the extractive and energy sectors. OPIC encourages signatories to the Voluntary Principles to implement them to the best of their ability in OPIC-assisted projects.

#### V. MONITORING OF ACTIVE PROJECTS

This section provides an overview of OPIC's policy monitoring and evaluation program and outlines fiscal year 2009's monitoring activities. The section is divided in three parts: compliance, self-monitoring, and site-monitoring.

#### Overview

OPIC considers monitoring active projects an important part of the project oversight process and employs two types of project monitoring: self monitoring and site monitoring.

All OPIC supported projects are required to complete a "Self-Monitoring Questionnaire" (SMQ) annually the SMQ reports on the project's actual results from the most recent fiscal year. A new, more user-friendly website for this questionnaire was launched in 2008. The new questionnaire is easier for investors to use and provides OPIC with higher quality data.

Site monitoring enhances the value of information gathered through self monitoring. Site monitoring involves field visits to OPIC-supported projects to ensure compliance with relevant covenants in OPIC agreements. These projects are (1) randomly sampled by the monitoring team or (2) designated as sensitive for at least one of OPIC's statutory disciplines (U.S. economic impact, host country developmental impact, labor and human rights, environment and social impact).

The value of site monitoring extends beyond ensuring compliance and understanding why a project succeeded or struggled. The process of gathering, analyzing and verifying information about projects helps OPIC continually improve its investment strategy, which means better outcomes for U.S. investors and host country development. In addition, site monitoring offers OPIC the opportunity to meet with U.S. officials in host countries to understand U.S. perspectives on economic development and U.S. investor involvement in the host countries. Finally, OPIC is able to ascertain investors' commitment to any community development and social responsibility goals that they set for themselves in their applications to OPIC. Seeing conditions at project sites and communities that support them is invaluable in judging investors' commitment to a broad vision of economic and social development.

In late 2007, OPIC initiated its integrated site monitoring format. Integrated monitoring allows OPIC's Office of Investment Policy (OIP) to use one monitoring visit to comprehensively assess projects' compliance with each of the statutory disciplines. FY 2009 was the second complete fiscal year of integrated site monitoring, and it is a successful and sustainable format for efficient and effective use of staff and budget resources.

In FY 2009, approximately 306 OPIC projects were self monitored and 57 OPIC projects were site-monitored. All OIP site monitored projects quantifiably improved the host country's economic development landscape.

#### **Compliance with OPIC Conditions and Covenants**

Each discipline within the Office of Investment Policy monitors projects to ensure compliance with OPIC conditions and covenants. The results of the site monitoring this year are:

- U.S. economic effects and host country development: U.S. economic and host country developmental impact site monitoring concluded that no projects were out of compliance with OPIC conditions and covenants.
- Environment and social impact: In 2009 environmental and social impact monitoring focused on those projects with the potential for greatest environmental and social risk. In 2009, 77 percent of the site visits involved Category A and B projects. During site monitoring, approximately 56 percent of projects were found to be in compliance with all OPIC covenants and conditions pertaining to environmental and social considerations. Of those projects found to be deficient in some performance measure mostly involved a failure to submit required documentation in a timely manner. Other instances in which a deficiency was noted involved a readily rectifiable issue. In those cases in which deficiencies were noted OPIC's environmental and social impact group informed the project investor of the deficiency and required the implementation of corrective actions.
- Labor and human rights: Labor and human rights monitoring found that the vast majority of the projects visited were in compliance with OPIC's contractual requirements. In FY 2009, approximately 94 percent of site-monitored projects were found to be in compliance. These projects generally demonstrated a strong commitment to the OPIC worker rights requirements, and illustrated many of the projects' commitments to support workers and their local communities in ways that extend above and beyond the OPIC requirements. Of the site-monitored projects that were found to be deficient in one or more areas with OPIC's contractual requirements,OPIC worked diligently with the project investors to cure, or implement a plan to cure the deficiencies in an appropriate manner and within a reasonable timeframe.

OIP also determined that three other site-monitored projects required additional follow-up by way of a third-party assessment. One of the three projects will be subject to a third-party assessment, scheduled to take place in 2010. Ultimately, it was determined that the other two would not be subject to a third-party assessment since one project resulted in a change in ownership and lack of operations, while the other ended its insurance policy. OIP also determined that a fourth project required a third-party assessment as a result of labor issues that were brought to OPIC's attention via the project's independent environmental and social consultants. At the time of this report, the assessment for the fourth project is pending finalization.

The following sections provide additional detail on the results of OPIC's FY 2009 monitoring.

#### **Self Monitoring**

The Self Monitoring Questionnaire (SMQ), required by contract/agreement since 1993, is completed by all active OPIC investments. This was the second year of OPIC's integrated SMQ, launched in 2008 in an effort to make OPIC's internal data management processes more efficient and to make procedures as streamlined and clear as possible to OPIC investors. The integrated SMQ better reflects the nature of OPIC's supported projects while making the form more user-friendly. The SMQ is divided into Section A (for all "bricks and mortar" projects) and Section B (for financial intermediaries). Financial intermediaries refer to general lending banks, specialized lending institutions, mortgage facilities, microfinance institutions, private equity funds, and other capital market transactions.

The analysis in this section is based on data obtained from approximately 306 SMQs, 193 of which are Section A respondents and 113 of which are Section B respondents. Of these received in FY 2009, Table 6 below shows the percentage of OPIC-supported projects reporting on various developmental indicators.

Table 6: FY 2009 Self-Monitoring Results

Capacity Measured	Qualitative Monitoring <sup>1</sup>	Percentage of Self- Monitored Projects Reporting Affirmative
Capital Mahilization	Involve Other Federal/Regional/Multilateral Organizations	34.8%
Capital Mobilization	Involve a Public/Private Partnership	19.1%
	Provide Overseas Training for Workers*	51.1%
Human Capital	Have Equal Employment Policy*	73.6%
Development	Have Policies for Women's Needs*	86.2%
	Provide Company Benefits	91.3%
Corporato Social	Help the Local Community	73.2%
Corporate Social Responsibility	Compliance with Environment, Health, & Safety Conditions	96.7%
	Introduce Innovative Management Techniques*	48.9%
	Introduce New Marketing Techniques*	33.5%
Technology and Knowledge Transfer	Introduce New Technology*	31.0%
Tallowicago Trailorei	Introduce New Products*	29.3%
	Lower Local Prices*	30.3%
	Have a percentage of Local Ownership*	59.0%
Economic	Local Owner is a Small & Medium Enterprise*	24.5%
Diversification	Help a Poor Region*	73.4%
	Strengthen the physical, financial or social infrastructure*	78.2%

<sup>&</sup>lt;sup>1</sup> Indicators noted above with an asterisk only contain information reported by bricks and mortar projects as OPIC does not request this information from financial services projects.

#### Capital Mobilization

One of OPIC's statutory objectives is to play a key role in leveraging private sector resources for development. The most obvious parameters to measure this are the involvement of non-OPIC project financing and equity, the involvement of other development institutions, and the promotion of Public-Private Partnerships (PPPs) through the involvement of local development banks, civil societies and non-governmental organizations.

Of the FY 2009 SMQs received by OPIC, approximately 35 percent reported the use of non-OPIC investment sources such as USAID, IFC, ADB, and EBRD, or a host country government entity, civil society or a non-governmental organization. In 2009, 19 percent of OPIC supported projects involved a PPP. PPPs are characterized by local government support, such as technical assistance from a local government agency or construction finance support from a state agency. The idea behind PPPs is to bring about local ownership in the project and to increase the number of stakeholders which would amplify the projects significance and support.

#### **Human Capital Development**

Employment generation is one of the key indicators OPIC uses to evaluate the developmental impact of projects it assists. In FY 2009, OPIC-supported projects created approximately 123,422 host country jobs or, on average, 417 host country employees per self-monitored project. The added employment contributed to the growth of the local economies by generating around \$67,105 of revenue per employee.

The aim is not just to create jobs, but also to increase the overall skill level of the workforce through proper training and development. In FY 2009, SMQ respondents reported approximately 7,569 local employees received formal training and around 51 percent reported employees receiving training abroad. When these employees are trained in their various job aspects outside of their home country, they are able to diffuse the same knowledge that they received abroad to other host country employees, increasing the technical knowledge base of the population.

Company and employee benefits are another indication of a maturing employment market. In FY 2009, 91 percent of the SMQ respondents offered various company benefits to its employees such as transportation or meal subsidies, pension plans, medical coverage, etc. An equal employment policy is a way to protect discrimination on the basis of race, color, gender, religion, etc.; approximately 74 percent of SMQ respondents had an equal employment policy over and above that required by local law. Finally, about 86 percent of OPIC-supported projects had special policies and benefits in place specifically to benefit women in their workplaces.

#### Corporate Social Responsibility

Corporate Social Responsibility (CSR) defines organizations taking responsibility for the impact of their activities on customers, employees, shareholders, communities and the environment in all aspects of their operations. OPIC evaluates CSR in its projects by identifying socially responsible and environmentally conscious benefits that are offered to the greater community. CSR includes community outreach programs whereby the foreign enterprise allows public access to company-sponsored clinics and schools, funds community centers, sponsors sports teams and cultural events, and provides financial support for local foundations and organizations. In 2009, 73 percent of the SMQ respondents were involved in these types of community outreach programs.

#### Technology and Knowledge Transfer

These transfers include the dissemination of innovative management practices, marketing and distribution expertise, and adoption of new production technologies. Often they lead to the development and introduction of new products or services into emerging markets. These transfers frequently have a substantial effect on the host country by improving worker productivity levels and the quality of other factors of production. Moreover, additional impacts may be created through the diffusion and adoption of new technologies and ideas by other firms in the host country due to the implementation of these ideas by OPIC-supported investors.

OPIC seeks to gauge such transfers of technology and knowledge in its support. For example, in FY 2009, 49 percent of SMQ respondents introduced innovative management techniques in the host country while 34 percent introduced novel marketing methods. Furthermore, almost 31 percent of OPIC-supported projects sought to introduce new technologies in the host country, while almost 29 percent of projects introduced new products in foreign markets. Such practices assist the foreign enterprises trying to seek a competitive edge in the global market, lead to the strengthening of national capacities through development of a domestic technology base, and can result in increased operating efficiencies. This enhancement of productivity can be reflected in lower local prices and in 2009, 30 percent of OPIC-supported projects reported that they offered lower prices in the market than their main competitors.

#### **Economic Diversification**

OPIC encourages private sector ownership of projects in order to promote entrepreneurial growth and sustainable development around the world. In FY 2009, approximately 17 percent of OPIC-supported projects were located in sub-Saharan Africa, 11 percent in North Africa and the Middle East, 16 percent in Asia and the Pacific, 32 percent in Europe and Eurasia, and 24 percent in Latin America and the Caribbean. Moreover, OPIC encourages economic diversification of the private sector as it decreases the local economy's dependence on international market swings and domestic business cycles, while assisting with overall macroeconomic stability.

OPIC measures the economic diversification impact of its investments through various indicators. This can be achieved by developing a new sector of economic activity such as introducing a home mortgage financing program in a country without such lending facilities. OPIC's products also extend credit to SMEs in order to encourage private sector investments in entrepreneurial endeavors which leads to further economic diversification. As such, approximately 59 percent of OPIC's projects have some local ownership and around 25 percent of these local owners are SMEs. Finally, in order to facilitate widespread development in the country, OPIC recognizes the need for rural development in order to avoid creating or exacerbating income and developmental disparities between thriving cities and rural communities. Approximately 73 percent of OPIC-supported projects reporting in FY 2009 were located in poor or rural regions in order to promote overall societal welfare and prosperity. Also, around 78 percent of OPIC's projects worked to strengthen the physical, financial, or social infrastructure, making infrastructure more accessible and affordable to all segments of the population.

#### **Site Monitoring**

In FY 2009 OPIC site monitored 57 projects located in various sectors in almost all world regions. The figures below provide a breakdown of the locations, sectors, and products involved for projects sitemonitored in FY 2009.

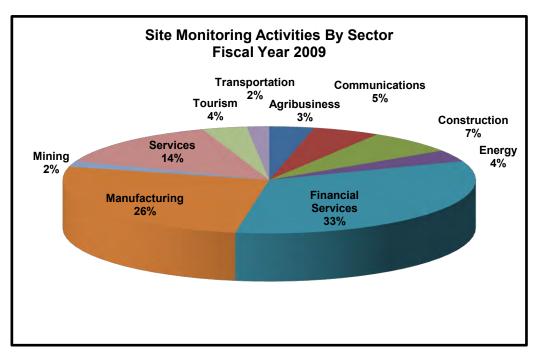
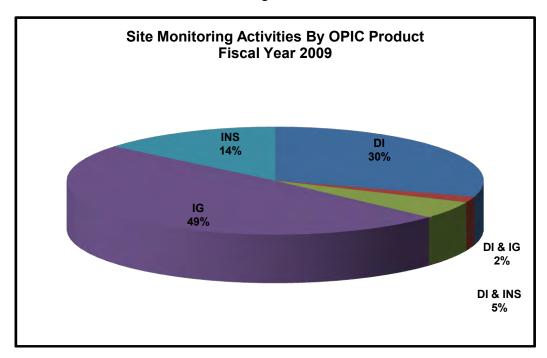


Figure 6

Reflecting the shift in the OPIC portfolio over the past few years toward financial services investments (about half of OPIC commitments in FY2009 were in the financial services sector), OPIC continued to monitor a significant number of projects in this sector. Financial services projects offer two sets of analysis: the impact of OPIC support on the financial intermediary and the impact of OPIC support on the downstream borrowers.

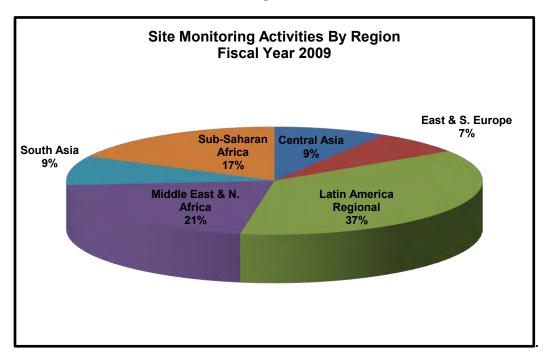
The focus on financial services also is reflected in the percentage breakdown of projects monitored by the OPIC product line. Most financial services projects are supported through OPIC investment guarantees and this is reflected in the projects site monitored by OPIC product in FY 2009.

Figure 7



Geographically, the majority of projects monitored in FY 2009 were in Latin America and Middle East & North Africa.

Figure 8



#### FY 2009 Monitoring Observations

Below is a small sampling of findings from the Office of Investment Policy's monitoring visits. These examples show some of the ways in which OPIC projects have had substantial developmental impact on the host countries.

#### **Latin America**

In FY 2009 OPIC site monitored 21 projects in Latin America for statutory compliance.

Sambazon (Brazil): OPIC's investment support in the construction of an açai processing facility in Brazil's Amazon has helped the U.S. investor, Sambazon, capitalize on the fruit's growing popularity. With good news about açai's health benefits and demand for a product that supports sustainable harvesting, U.S. and European market demand continues to increase. Though under no contractual obligation to supply the plant, there are approximately 3,000 local Amazonian families that harvest the fruit for sale to Sambazon. The company works with these families regarding Sambazon's commitment to the annual Fair-Trade price floor, which helps ensure a sufficient supply. During the harvest season, which runs from June through December, Sambazon's modern plant employs more than 70 workers, and the company demonstrates a strong commitment to the local community. The company not only puts cooperation with it growers as a foremost priority, but also supports local charities, including a school for abandoned and impoverished children.

ISAGEN (Colombia): Another Latin-American project monitored by OPIC in 2009 helped Colombia's hydroelectric power generator, ISAGEN, utilize a U.S. financial institution's OPIC-backed loan to rehabilitate several hydroelectric power generation facilities. By repairing a damaged generator and renovating older generators, this project has allowed ISAGEN to maintain its electricity generation capacity and thus continue to provide electricity generation services to consumers and businesses. The project is helping to meet electricity demand in a country with a lack of adequate supply. Reliable power is a prerequisite to economic development, and with this investment, ISAGEN ensured continued stable delivery of nearly 25 percent of Colombia's total annual power. In addition, the investment facilitated ISAGEN's transition to fully-private ownership and the divestiture of the Colombian government in this sector.

#### South Asia

OPIC monitored four projects in South Asia this year.

Ceylon Oxygen (Sri Lanka): A visit to Ceylon Oxygen showed the power of an OPIC investment to catalyze organizational and technological change. Ceylon Oxygen is Sri Lanka's leading medical and industrial gas manufacturer. OPIC's investment resulted in Ceylon's reorganization, which eliminated waste and inefficiency that persisted under the old structure. In addition, introduction of technology to track and measure organizational and production performance enabled the company to solidify its position as Sri Lanka's premier gas production and delivery organization. Meetings were held with key personnel to understand how reorganization and technology transformed the company. In addition, a tour of the facilities showed that Ceylon made to improve the company's safety, and environmental protection measures. New fire-suppression control systems allow Ceylon to reduce the risks its facilities pose to workers and the surrounding community.

Lanka Orix Leasing (Sri Lanka): With OPIC's support, Lanka Orix Leasing, one of Sri Lanka's largest leasing companies, was able to set up a microfinance operation that allows it to expand its reach in to the underserved segments of the economy. Because of OPIC's investment, Orix was able to open six new branches in rural areas to serve less developed areas, which resulted in the provision of leases to approximately 1,400 new borrowers. Moreover, Orix's leases for vehicle and equipment borrowers help small- and medium-sized enterprises. Orix utilizes cutting-edge technology to manage risk and deal with the challenges of operating in an uncertain environment. OPIC monitoring provided OIP staff with an understanding of this replicable model, which will help OPIC hone its ability to maximize the developmental effects of its investments in micro-finance and leasing around the world.

#### Sub-Saharan Africa

OPIC monitored 10 projects in Sub-Saharan Africa in FY 2009.

Ghana Home Loans (Ghana): OPIC visited Ghana Home Loans (GHL) and the visit revealed how GHL's introduction of long-term fixed-rate mortgages allowed hundreds of families to purchase homes. GHL has introduced long-term, fixed-rate mortgages into the host country market, which were previously not widely available. Ghana Home Loans (GHL) was one of the first financial institutions to securitize some of its loans and issue mortgage-backed securities into the capital market, deepening the country's financial sector. The increase in mortgage lending has led to multiplier effects throughout the host country economy by increasing the availability of housing units, increasing homeownership, and stimulating the home supply sector. As of the visit, GHL had closed 464 loans, and had an outstanding loan portfolio of \$34 million. The company has 172 more loan commitments in its pipeline valued at \$11 million. Of the OPIC-backed portion of GHL's loan portfolio, 69 percent of loans have been made for new properties, 22 percent for business investing and 9 percent for refinancing. GHL currently employs 26 people and is adding about four new people every 6 months. GHL offers both in-house and off-site training for its employees.

Milicom (Tanzania): OPIC monitored Tanzania's Milicom, the country's third-largest cellular telecommunications operator. Milicom, or TIGO, which is the name of its cellular brand, controls about a third of the country's telephony market. This size reflects a significant expansion from 2007, when the company received its OPIC-supported investment. TIGO increased its customer base through a rapid expansion of the company's nationwide cell phone coverage. This OPIC-supported expansion has led to approximately 60 new management and professional/technical positions, while the increased network size involved significant levels of third party employment. TIGO contracts cell tower construction to four different Tanzanian companies. With the OPIC-supported expansion resulting in about 25 new towers and a minimum of seven people required to build and install a tower, this investment can conservatively be credited with supporting approximately 175 Tanzanian workers. TIGO has also been on the forefront of mobile banking services, which continue to grow in popularity. Through these efforts the company has become the chosen brand for Tanzania's youth. TIGO also has a strong commitment to the local community, with a near doubling of its corporate social responsibility budget between 2008 and 2009. Programs supported by the company include donations to local schools, food for the homeless and the construction of wells to increase the amount of available of potable water.

#### Middle East and North Africa (MENA)

OPIC monitored 12 projects in the Middle East and North Africa in FY 2009.

HWD (Algeria): OPIC's investment in an Algerian water treatment facility is noteworthy for several reasons. Water security, like power, is a prerequisite to economic development. OPIC's investment helped create the first reverse-osmosis desalinization facility in North Africa. The project's success in supplying the City of Algiers with reliable water is seen as a replicable experiment in responding to this region's water-related challenges. A tour of the plant revealed a modern facility staffed by 60 new workers, who were all trained in this cutting-edge technology. Workers receive extensive and ongoing training. The company's strategy for community involvement includes scholarships for students studying this technology at the local university. Additionally, the project maintains a good relationship with the university to ensure that graduates see the water facility as a desirable place to begin their careers.

MEC (Jordan): OPIC monitored a Citibank facilitated project, Mid-East Complex for Engineering, Electronics and Heavy Industries ("MEC"), in Jordan. The OPIC-guaranteed loan assisted MEC in its transition from an assembly-plant to a full-fledged manufacturer of home appliances. It has positive job creation impacts as the OPIC-guaranteed funds have enabled the creation of more than 70 permanent local jobs. All workers receive training, much of which occurs at the MEC Academy, a training facility that provides specialized technical expertise so that workers are compliant with the production standards of large Asian firms, under whose labels MEC manufactures home appliances.

#### **Eastern Europe and Central Asia**

In FY 2009 nine projects were monitored in Eastern Europe and Central Asia.

StarNet (Russia): OPIC's monitoring visit to StarNet, a broadband internet provider in Moscow, revealed the company's enormous contribution to Moscow's "Metropolitan Area Network". Compared to other broadband technologies, StarNet's Ethernet service is reliable and affordable, which gives StarNet an advantage in Moscow's competitive internet market. As a result of the OPIC supported expansion, the company created 150 positions and utilized a significant amount of local resources to build out its network, thereby supporting regional suppliers and workforce. Furthermore, StarNet's operations deliver a service to consumers that positively catalyze communications. Reducing the transaction cost of information will benefit both: residential consumers and businesses that use the internet.

Malika Hotel (Uzbekistan): OPIC's monitoring visit to the Malika Hotel in Bukhara Uzbekistan demonstrated the impact that is possible when OPIC invests in tourism and hospitality developments. The Uzbek banking system's limitations hinder development of a sustainable tourism industry in Uzbekistan. OPIC's assistance bridged this gap, helping the Hotel to expand and renovate its facility. Occupancy rates at the new hotel hover around 90 percent during the tourist season, and the hotel employs 26 people in various occupations around the hotel. Nearly all inputs are locally procured and the hotel's success has spurred improvement among other tourist-oriented hotels to improve their facilities, strengthening Uzbekistan's image as a tourist destination.

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# EXHIBIT 1: U.S. EMPLOYMENT & ASSOCIATED EFFECTS OF OPIC-SUPPORTED PROJECTS FY 2009 (PROJECTIONS)

(All Dollar Figures are in Thousands)

Industry	Number of	U.S. Current Account		ation of Projec	•	U.S.	Effect o	n U.S. Employme	nt 1/ 3/	Effect on U.S. Trade
Sector	Projects	Inflows 1/	Host Country	<u>U.S.</u>	3rd Country	Procurement 1/	Initial	Operating	Total	Balance 1/
A. Projects with Positive	Effects on Emp	ployment 4/								
Manufacturing 5/	9	\$215,211	\$270,218	\$19,705	\$28,788	\$206,343	46	344	390	\$116,686
Minerals & Energy	4	\$41,489	\$72,013	\$0	\$0	\$31,489	26	12	38	\$41,489
Other Services	18	\$205,761	\$564,777	\$10,620	\$41,759	\$202,459	299	40	339	\$152,661
Positive Total	31	\$462,462 <u>/</u>	\$907,009	\$30,325	\$70,547	\$440,291	371	396	767	\$310,837
B. Projects with Neutral	Effects on Empl	oyment 7/								
Manufacturing /5	8	\$600	\$294,139	\$17,606	\$48,090	\$0	0	0	0	(\$87,428)
Minerals & Energy	6	\$2,000	\$43,251	\$0	\$0	\$0	0	0	0	\$2,000
Other Services	72	\$15,155	\$900,308	\$0	\$62,441	\$3,355	4	2	6	\$15,155
Neutral Total	86	\$17,755	\$1,237,698	\$17,606	\$110,530	\$3,355	4	2	6	(\$70,273)
C. Projects with Negative Effects on Employment 8/										
Negative Total	0	<b>\$0</b>	\$0	<u>\$0</u>	\$0	\$0	0	0	0	\$0
Net FY Total	117	\$480,216	\$2,144,707	\$47,931	\$181,078	\$443,646	375	398	773	\$240,563

<sup>1/</sup> Total effect during first five years of project operation.

<sup>2/</sup> Average annual effect during first five years of project operation.

<sup>3/</sup> Person years of employment.

<sup>4/</sup> Projects with a U.S. employment effect of 2 or more jobs (10 person years or more of employment during the first 5 years of project operation).

<sup>5/</sup> There is one project within the Agribusiness sector in Section A (positive effects) and in Section B (neutral effects). To protect business confidentiality, the data for these projects are included in the data for the Manufacturing sector.

<sup>6/</sup> Totals may differ slightly from the sum of individual sectors due to rounding.

<sup>7/</sup> Projects with a U.S. employment effect of plus or minus 2 jobs (plus/minus 10 person years of employment during the first 5 years of project operation).

<sup>8/</sup> There were no projects supported in fiscal 2009 that resulted in the loss of any U.S. employment.

# EXHIBIT 2: BREAKOUT OF FINAL THIRD COUNTRY DESTINATION OF THE OUTPUT OF OPIC-SUPPORTED PROJECTS

FY 2009 (Projections)

PROJECTS WITH POSITIVE EFFECTS ON U.S. EMPLOYMENT 1/

Agribusiness		
Mexico		\$19,750
Netherlands		\$1,733,000
United Kingdom		\$1,342,000
Unknown	_	\$62,000
	Sector Total	\$3,156,750
Minerals and Energy	_	
	Sector Total	\$0
Manufacturing		
Turkey		\$2,423,322
Italy		\$17,676,041
Asia Regional		\$4,747,000
Burkina Faso		\$150,000
Cote D'Ivoire		\$250,000
Liberia		\$85,200
South Africa	_	\$300,000
	Sector Total	\$25,631,563
Services		
Costa Rica		\$5,000,000
Dominican Republic		\$1,000,000
El Salvador		\$1,000,000
Germany		\$6,367,000

TOTAL POSITIVE	
TOTALTOOMVE	
EFFECTS	\$70.547.242
	<del>+ + + + + + + + + + + + + + + + + + + </del>

**Sector Total** 

Continued on next page

\$4,240,000

\$3,000,000 \$1,050,937

\$3,090,992

\$17,000,000

\$41,758,929

\$10,000

Global

Liberia

Sudan Uganda

Panama

**United Arab Emirates** 

<sup>1/</sup> There were no projects with positive U.S. employment effects that had sales to third countries. There were no projects supported in fiscal 2009 that resulted in the loss of any U.S. employment.

# EXHIBIT 2 (continued): BREAKOUT OF FINAL THIRD COUNTRY DESTINATION OF THE OUTPUT OF OPIC-SUPPORTED PROJECTS, FY 2009 (Projections)

#### PROJECTS WITH NEUTRAL EFFECTS ON U.S. EMPLOYMENT 3/

Agribusiness		
Agribusiness Australia		\$2,075,700
United Kingdom		\$2,075,700
Officed Kingdom	Sector Total	\$4,151,400
Minerals & Energy		
	Sector Total	\$0
Manufacturing		******
Africa Regional		\$2,000,000
Angola		\$1,800,000
France		\$7,925,000
Italy		\$7,925,000
Libya		\$4,984,000
United Kingdom		\$15,850,000
Unknown		\$2,054,220
Tanzania		\$1,000,000
Zambia		\$400,000
	Sector Total	\$43,938,220
Services		
Czech Republic		\$6,000,000
France		\$1,300,000
Global		\$28,315,458
India		\$3,994,403
Kenya		\$3,159,110
Mexico		\$201,865
Middle East Regional		\$1,470,000
Poland		\$12,000,000
Slovak Republic		\$6,000,000
	Sector Total	\$62,440,836
	TOTAL NEUTRAL	
	EFFECTS	\$110,530,456
	FY TOTAL	\$181,077,698
		ţ - ,- ,,,

<sup>2/</sup> Totals may differ slightly from the sum of individual countries due to rounding.

<sup>3/</sup> Represents projects with a U.S. employment effect of plus or minus 2 jobs (plus/minus 10 person years of employment during the first 5 years of project operation). There were no projects supported in fiscal 2009 that resulted in the loss of any U.S. employment.

# EXHIBIT 3: U.S. EMPLOYMENT EFFECTS AND HOST-COUNTRY LOCATION OF OPIC-SUPPORTED PROJECTS, FY 2009

#### A. PROJECTS WITH POSITIVE EFFECTS ON EMPLOYMENT 1/

#### **MINERALS**

		&			
COUNTRY/REGION	AGRICULTURE	ENERGY	MANUFACTURING	SERVICES	TOTAL
Afghanistan		1	1		2
India		1	1		2
Total Asia	0	2	2	0	4
Russia				4	4
Turkey			1		1
Total Europe	0	0	1	4	5
Brazil				1	1
Chile	1				1
Colombia		1			1
Costa Rica				1	1
Haiti			1		1
Honduras				1	1
Jamaica				1	1
Latin America				2	2
Mexico			1	2	3
Panama				1	1
Peru				1	1
Total Latin America	1	1	2	10	14
Iraq				1	1
Jordan				1	1
Total Middle East & N.	0	•	•	•	•
Africa	0	0	0	2	2
Angola			1		1
Ghana			1		1
Liberia		1	1	1	3
Tanzania			•	1	1
Total Sub-Saharan Africa	0	1	3	2	6
TOTAL POSITIVE	1	4	8	18	31

<sup>1/</sup> Projects with a U.S. employment effect of 2 or more jobs (10 person years or more of employment during the first five years of operation). The vast majority of projects were in the services sector. Furthermore, there were no projects supported in 2009 that resulted in the loss of any U.S. employment.

Continued on next page

# Exhibit 3 (cont): U.S. EMPLOYMENT EFFECTS AND HOST COUNTRY LOCATION OF OPIC-SUPPORTED PROJECTS

#### B. PROJECTS WITH NEUTRAL EFFECTS ON EMPLOYMENT 1/

COUNTRY/REGION	AGRICULTURE	MINERALS & ENERGY	MANUFACTURING	SERVICES	TOTAL
Azerbaijan				4	4
India		2		2	4
Kazakhstan				2	2
Mongolia		1			1
Philippines				1	1
Uzbekistan				1	1
Vietnam	1				1
Western Samoa				1	1
Total Asia	1	3	0	11	15
Armenia				1	1
Bosnia-Herzegovina				1	1
Bulgaria				2	2
Europe Regional				1	1
Georgia			1	5	6
Moldova				1	1
Poland				1	1
Romania				3	3
Russia			1	1	2
Turkey			2	1	3
Total Europe	0	0	4	17	21
All OPIC Countries		1		5	6
Total Global	0	1	0	5	6

<sup>1/</sup> Projects with a U.S. employment effect of 2 or more jobs (10 person years or more of employment during the first five years of operation). The vast majority of projects were in the services sector. Furthermore, there were no projects supported in 2009 that resulted in the loss of any U.S. employment.

Continued on next page

# EXHIBIT 3 (cont): U.S. EMPLOYMENT EFFECTS AND HOST COUNTRY LOCATION OF OPIC-SUPPORTED PROJECTS

#### B. PROJECTS WITH NEUTRAL EFFECTS ON EMPLOYMENT 1/ (continued)

#### **MINERALS**

		&			
COUNTRY/REGION	AGRICULTURE	ENERGY	MANUFACTURING	SERVICES	TOTAL
Gabon				1	1
Ghana			1	1	2
Liberia				1	1
Mali				1	1
Nigeria				1	1
South Africa			1	4	5
Uganda				1	1
Total Sub-Saharan Africa	0	0	2	10	12
Bolivia				1	1
Brazil				1	1
Chile				1	1
Costa Rica				2	2
Dominican Republic				1	1
Ecuador				1	1
El Salvador				2	2
Guatemala				2	2
Honduras				2	2
Mexico		2		3	5
Nicaragua		2		3	3
Panama				2	2
Peru				1	1
Total Latin America	0	2	0	22	24
Al				_	4
Algeria				1	1
Iraq				1	1
Israel				1	1
Jordan				1	1
Lebanon				1	1
Morocco			4	1	1
Tunisia			1	,	1
West Bank Total Middle East & N.				1	1
Africa	0	0	1	7	8
TOTAL NEUTRAL	4	6	7	72	86
TOTAL NEUTRAL	1	<u> </u>		12	ďδ

1/ Projects with a U.S. employment effect of 2 or more jobs (10 person years or more of employment during the first five years of operation). The vast majority of projects were in the services sector. Furthermore, there were no projects supported in 2009 that resulted in the loss of any U.S. employment.

Continued on next page

# EXHIBIT 3 (cont): U.S. EMPLOYMENT EFFECTS AND HOST COUNTRY LOCATION OF OPIC-SUPPORTED PROJECTS

#### C. PROJECTS WITH NEGATIVE EFFECTS ON EMPLOYMENT 1/

COUNTRY/REGION	AGRICULTURE	MINERALS & ENERGY	MANUFACTURING	SERVICES	TOTAL
TOTAL NEGATIVE	0	0	0	0	0

#### D. TOTAL PROJECT EFFECTS ON EMPLOYMENT

TOTAL EFFECTS:					
Positive, Neutral					
& Negative					
ALL OPIC COUNTRIES	2	10	15	90	117

<sup>1/</sup> Projects with a U.S. employment effect of 2 or more jobs (10 person years or more of employment during the first five years of operation). The vast majority of projects were in the services sector. Furthermore, there were no projects supported in 2009 that resulted in the loss of any U.S. employment.

#### EXHIBIT 4: METHODOLOGY FOR CALCULATING U.S. EMPLOYMENT EFFECTS

Each project seeking OPIC support is reviewed on a case-by-case basis to estimate its U.S. employment effects. OPIC obtains estimates from the investor of the projected initial and operational procurement from the United States by value and specific type of good or service. The U.S. employment generated by a project's initial and five-year operational procurement of goods and services is estimated by considering the *direct and indirect* employment necessary to produce those goods and services. That is, the employment effects incorporate the direct employment necessary to produce the procured goods and services, as well as the indirect employment required for the production of the associated intermediate inputs.

OPIC details each type of U.S. good or service procured for each project and calculates the employment effect in that industrial sector as well as in the sectors that supply necessary components or inputs. By using this methodology, OPIC is able to ascertain employment-generation levels with greater precision than if it used an across-the-board average for all U.S. exports. By including indirect effects, OPIC's employment figures present a more accurate picture of the benefits accruing to U.S. workers from the procurement of goods and services. Finally, to confirm its estimates, OPIC monitors *actual* economic effects after project start-up and throughout the life of the OPIC's involvement with the project. OPIC's monitoring is described in further detail in the Monitoring section.

#### **EXHIBIT 5: OPIC'S DEVELOPMENT MATRIX EXPLAINED**

OPIC supports projects that are likely to serve as foundations for long-term economic growth, especially those that improve upon the host country's infrastructure and provide the basic human necessities of shelter, food, water and health care – these types of projects are assessed on OPIC's standard development matrix. Through this development impact assessment, OPIC evaluates and scores every proposed project in 26 key areas across three broad categories that objectively quantify its expected contribution to host-country development.

- Category I covers job creation, training, local procurement, corporate social responsibility, and equal employment opportunity five highly-weighted impacts that should be demonstrated by any project, regardless of sector or the level of economic development within the host country.
- Category II covers 20 additional development indicators within such broad areas as human capacity building (degree of training), private sector development, resource leveraging, social effects, infrastructure improvements, macroeconomic and institutional effects, and technology/knowledge transfer. The degree to which projects demonstrate these additional developmental benefits depends significantly on the features of a given project.
- Category III adjusts for the host country's per capita GNP, reflecting both OPIC's priority to steer investment into the poorest countries and the reality that nations most in need often lack the capacity to support more developmentally sophisticated investments.

A project must score at least 50 out of 160 possible points on the matrix to be considered *developmental* and clearly eligible for OPIC support. A score of 100 to 160 qualifies a project as *highly developmental*.

#### **EXHIBIT 6: OPIC'S FINANCIAL SERVICES DEVELOPMENT MATRIX EXPLAINED**

As more of OPIC's projects focus on financial services, it became evident that in many cases the development matrix, originally created for traditional "bricks and mortar" projects, did not capture accurately the developmental impact of these projects. A new model was developed tailored to assessing the development impacts of financial services projects. The general structure of the financial services matrix is similar to the standard development matrix, but includes core indicators that are specific to financial services-related projects. These core indicators result in a development matrix that is a more comprehensive and accurate measurement of the developmental impact of financial services projects. The types of projects that are scored on the financial services matrix include framework agreements, investment funds, mortgage finance and securitization projects, microfinance facilities, and general bank lending.

To support its developmental mission, OPIC evaluates and scores every proposed project in 11 key areas across three broad categories that objectively quantify its expected contribution to host-country development.

- Category I covers financial instrument innovation or augmentation, multiplier/spillover effects, corporate governance, and capital mobilization and complementarity – four highly-weighted impacts that should be demonstrated by any project, regardless of sector or the level of economic development within the host country.
- Category II covers six additional development indicators within such broad areas as sustainability, economic diversification, human capacity building (job creation and training), social effects, macroeconomic and institutional effects, and technology/knowledge transfer. The degree to which projects demonstrate these additional developmental benefits depends significantly on the features of a given project.
- Category III adjusts for the host country's per capita GNP, reflecting both OPIC's priority to steer
  investment into the poorest countries and the reality that nations most in need often lack the
  capacity to support more developmentally sophisticated investments.

A project must score at least 50 out of 160 possible points on the matrix to be considered *developmental* and clearly eligible for OPIC support. A score of 100 to 160 qualifies a project as *highly developmental*.

#### **EXHIBIT 7: OPIC SITE MONITORING METHODOLOGY**

# (Statutory Disciplines: Environment, U.S. Economic Impact, Labor and Human Rights, Host Country Developmental Impact)

OPIC performs comprehensive and integrated monitoring to evaluate the U.S. and host-country economic effects as well as the environmental, health and safety (EHS) and labor and human rights impacts of its projects. OPIC's integrated project monitoring is designed to ensure that each project complies with statutory and contractual requirements in these areas. Project monitoring consists of site visits to projects, in addition to the analysis of information submitted annually by investors in the form of an online "Self Monitoring Questionnaire." As of 1993, Self Monitoring Questionnaires are required of all investors per the OPIC finance agreement or insurance contract.

Using sampling theory, OPIC identifies investment projects that OIP staff across all disciplines will site monitor during a three-year period, drawing active projects that exhibit specific characteristics within the portfolio. OPIC currently is site monitoring projects that were supported by OPIC during fiscal years 2003 through 2005. The sample of projects selected for site monitoring includes: (1) a random sample of projects supported by the agency during a three-year period or "monitoring round"; (2) projects supported during this period that are sensitive with respect to U.S. economic effects, labor and human rights or environment, health and safety issues; and (3) projects from other years that have either not been sitemonitored in the past or that fit in logistically with randomly sampled project in similar regions or countries. This "sensitive project" sample ultimately provides a conservative bias to the monitored results.

#### Labor and Human Rights

OPIC monitors projects for compliance with contractual worker rights requirements through a combination of annual reporting by companies as well as site visits to both random and selected samples of projects. OPIC targets its worker rights monitoring efforts toward countries and sectors with a higher potential for possible worker rights violations.

Because certain areas of worker rights violations may be difficult to identify from a typical project site monitoring visit, in instances when OPIC determines further investigation is warranted for a project, OPIC employs trained and certified labor rights auditors, usually recruited from the NGO community with reputations for impartiality and credibility among both the labor and business communities, to perform a full project audit. The auditors spend as much time as necessary to investigate thoroughly potential violations. At a minimum, an audit would include independent and confidential interviews with employees, management, government officials and knowledgeable local NGOs and organized labor groups.

In order to improve its monitoring process, the Labor and Human Rights Group continues to review and refine its on-site monitoring strategies, as well as its contractual instruments to communicate better to potential investors OPIC's expectations with respect to worker rights and how worker rights best can be protected under diverse project and corporate structures, particularly projects involving contractors and subcontractors.

#### Environment, Health, and Safety (EHS)

With respect to EHS issues, projects selected for site monitoring in a given year are prioritized based on an environmental and social risk rating. Environmental and social risk ratings are based on several factors including project sensitivity, host country context, project-level environmental and social management system, and investor experience in implementing projects of similar complexity. OPIC assesses the EHS and social performance of a project against applicable benchmarks including contract conditions, international standards and guidelines, and industry best practices. Factors included in the

performance assessment include an evaluation of the project's environmental and social management systems, the effectiveness of mitigation, including pollution controls in risk reduction, and the efficiency of the operations, including energy efficiency.

#### U.S. Economic Impact

All projects visited are evaluated for their actual impact on the United States and host country economies, including the employment generation effects of the investments. Those projects deemed sensitive with respect to U.S. economic effects are visited to ensure that they are not negatively impacting the U.S. economy. This exercise includes verifying export levels to the U.S. (if any) or to other countries, calculating the U.S. balance of payments impact, and verifying compliance with any restrictions put forward in the OPIC loan agreement or insurance contract (e.g. restrictions on exporting to the U.S. or significant U.S. export markets).

#### **Developmental Impact**

Regarding host country economic impact, projects are reviewed across the same criteria as used at the time of project approval. Thus, an "apples-to-apples" comparison can be made between original estimates and actual operations. For example, if a project originally expects to hire 100 local workers, actual employment numbers are verified and compared to the forecast. Additionally, if a project is expected to build a school for the children of its employees, this will be verified. Other developmental impacts not identified or anticipated at the time of application also are evaluated and quantified during site monitoring. Finally, the project is scored using actual findings against the initial developmental impact evaluation using the same criteria projected in the project's original OPIC clearance.

#### **Exhibit 8: PACE REPORT**



4401 Fair Lakes Court Fairfax, VA 22033 USA Phone: 1.703.818.9100 www.paceglobal.com

May 07, 2010

Dear Sirs / Madams:

The Overseas Private Investment Corporation ("OPIC") commissioned Pace Global Energy Services, LLC ("Pace") to perform an independent assessment of climate change impacts attributable to projects to which OPIC is financially committed. Pace calculated the estimated annual emissions of greenhouse gases ("GHGs"), gases that absorb heat in the atmosphere and are linked to climate change, from all projects deemed to be significant sources of GHG emissions. These estimates relied upon general project data provided by OPIC. To verify and refine initial estimates, Pace contacted project sponsors requesting 2008 GHG emissions estimates based on actual operational parameters in 2008. OPIC's 2008 GHG emissions inventory is comprised of Project Sponsor emission estimates and pace estimates when sponsor data was unavailable. The following report presents OPIC's 2008 emissions inventory estimate and all underlying assumptions and calculations.

Pace certifies OPIC's 2008 GHG emissions inventory to be <u>33,508,710</u> short tons CO2 based on available project specific data and employing internationally accepted protocols and factors for GHG emissions accounting.

Pace certifies that the inventory includes all projects active in OPIC's portfolio during the calendar year 2008 that are significant sources, defined as projects emitting over 100,000 short tons of GHG emissions annually.

Pace will continue to assess OPIC's GHG emission inventory annually and issue reports documenting and justifying changes in the emissions profile.

Best Regards.

Melissa Ritter Director Environmental Markets and Policy Pace Global Energy Services, LLC

CC: Sanjeev Aggarwal and Lori Leonard (OPIC)
Shaun Enright (Pace)

Setting the Pace in energy since 1976								
Washington	- 2	Houston		Columbia		London	- E	Moscow

# 2008 Greenhouse Gas Emissions Inventory Report

Prepared for:

**Overseas Private Investment Corporation** 

May 2010



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### INTRODUCTION

### **Background:**

Pace Global Energy Services, LLC ("Pace") performed an independent analysis to quantify the greenhouse gas ("GHG") emissions directly attributable to projects to which the Overseas Private Investment Corporation ("OPIC") is financially committed. GHGs are atmospheric compounds that trap the sun's infrared radiation or heat. In excess quantities, GHGs are linked to numerous impacts to global climate and the environment as a whole. Further, regulations are being developed and implemented at regional and local levels to limit and / or reduce GHG emissions from human caused sources that have the potential to impart compliance cost implications to major sources of these emissions.

### Objective & Scope:

This analysis aims to assess the level of potential GHG emissions of projects determined to be significant sources of GHG emissions in terms of short tons of carbon dioxide ("CO2") emissions. The estimate includes only those projects active in OPIC's portfolio as of September 30, 2009 with annual emission levels exceeding 100,000 short tons of CO2 (major sources) and was produced using data available from project sponsors as supplied by OPIC.

### **Baseline Development:**

To develop an initial baseline, Pace conducted a screen of OPIC supported projects for the 2007 calendar year and includes only those emissions from direct, on site emission sources from operations. It does not include indirect emissions associated with purchased electricity or steam, chemical releases, or the past construction of facilities. After further analysis of environmental data and project descriptions, Pace narrowed this list to a short list of projects that had the potential to exceed the threshold of 100,000 short tons CO2 per annum from direct fossil fuel combustion. The maximum Potential to Emit ("PTE") was then estimated for this short list of projects and is based on available project information, which varied by project, but included a combination of consumption data, throughput, generating capacity, relative project sizes, and an assumed operating capacity of 8,000 hours per year. In order to support the accuracy of the estimates and assumptions and to ascertain 2007 operational emissions data, OPIC solicited additional information from the individual sponsors. The 2007 inventory consisted of project sponsor provided information where responses were received and Pace's estimates for the project's maximum potential to emit for projects where sponsor feedback was not received as of the time of reporting for the 2007 year inventory report (March 2009).

# 2008 Emissions Inventory:

Following the same process used to develop the baseline, Pace performed an initial screen of OPIC supported projects operational for the 2008 calendar year and active as of September 30, 2009, the close of the fiscal year. All projects active in 2007 and identified to be below the threshold for inclusion were excluded in the initial screen. The initial shortlist included 44



projects that were new to OPIC's portfolio as of 2008 and had the potential to be major sources and projects that were considered major sources and were included in the 2007 inventory. Pace and narrowed this list 25 short-listed projects and one fund that exceeded the 100,000 short tons CO2 per annum threshold. Information requests were sent to project sponsors to validate 2008 emission inventory estimates. Actual 2008 emissions estimates and operating data received from project sponsors was used in the 2008 inventory if received. For projects where sponsor feedback and / or actual 2008 year operating data was unavailable, the 2007 baseline estimate was used to reflect 2008 emissions, in absence of updated actual operational data. The estimated total for OPIC's 2008 GHG Inventory is 33,285,571 short tons CO2.

This report presents the results of the 2008 year GHG emissions estimate for OPIC projects. Next year, Pace will review and update the emissions attributable to projects to which OPIC is financially committed for the 2009 calendar year and identify and report differences from the emissions estimates presented in the initial inventory report herein.



#### **METHODOLOGY**

#### 2008 Initial Screen

For 2008, Pace screened all of OPIC's affiliated projects from the complete project list provided by OPIC. The scope of the analysis included emissions from the direct combustion of fossil fuels from projects that would result in over 100,000 short tons of CO2 emitted per year. Emissions associated with electricity usage, industrial processes, and/or refrigerants were excluded. Based on the criteria below, Pace developed a 'short list' of projects that warranted more detailed analysis to determine whether or not they exceeded the threshold for inclusion and to calculate the PTE emissions. The initial screen relied on the following criteria for inclusion. (See,



APPENDIX A, Table A-1: Active Project List for the complete list of projects analyzed).

- Projects that were active as of September 30,2009;
- Projects that were determined to emit over 100,000 short tons of CO2 per year through the analysis performed in 2007 for the baseline inventory; and
- New projects with which OPIC was affiliated as of 2008 in the energy, oil & gas, transportation, mining, manufacturing, and construction sectors as facilities in these sectors are of sufficient size to potentially directly emit over 100,000 short tons CO2 per year.

Projects in the finance/banking, insurance, and service sectors were omitted from further analysis because the majority of emissions from these sectors are attributed to electricity usage which is outside the scope of this study.

A total of 44 projects were included in the initial 'short list.' (See



APPENDIX A, Table A-2: Initial Short List for the initial 'short list'). After discussing and reviewing project details with OPIC for additional information regarding specific projects, this list was shortened to 26 projects that could potentially reach or surpass the emissions threshold for inclusion in the inventory. None of the new projects for 2008 were determined to have the potential to emit over the threshold for inclusion so this list consisted of projects included in the baseline. Pace vetted and finalized emission calculations for these projects and included them into the 2008 inventory.

# Tier A (Power Generation) Facility Inventory Estimates

Pace segregated fossil fuel fired power generation projects on the final 'short list,' of which a total of 16 projects were identified and were referred to as "Tier A projects". The maximum PTE for Tier A projects were based on an operating capacity of 8,000 hours per year, consumption data (if available), facilities' power generating capacity (MW), and/or specific estimates of GHG emissions provided by the project sponsor if available. The most accurate emissions profile is that based on actual fuel consumption; however, this information was not available for all of the Tier A projects. Therefore, when calculating emissions based on generation capacity alone, Pace generated estimates by calculating emissions based on capacity (MW) and used a conversion efficiency factor obtained from the International Finance Corporation's Guidance Note 3. Other standard assumptions required to perform inventory calculations were primarily sourced from The Climate Registry's General Reporting Protocol. A complete list of data sources relied upon for this analysis is included in the Annotated Bibliography in



## APPENDIX **D**.

All of the Tier A projects' emissions estimates were calculated using actual annual fuel consumption data provided by the project sponsors, either for 2008 or default to 2007 sponsor provided if responses for 2008 were not received. The data used in the calculations as well as the maximum PTE calculations are detailed in



#### APPENDIX B.

# Tier B Facility Inventory Estimates

Nine projects on the 'short list' were identified as Tier B facilities, defined as facilities in the oil & gas, mining, transportation, manufacturing, or construction sectors with annual GHG emissions estimated to be above the threshold defining a major source for this analysis. Oil & gas sector projects' emissions were based on throughput, consumption data, and/or emissions data from similar facilities. Emissions from manufacturing projects were based on the energy requirements from similar facilities and/or processed volumes. All maximum PTE estimates assume an operating capacity of 8,000 hours per year. When emissions data from similar facilities was necessary to perform the calculation, the data was obtained from credible, publically available information sources such as the American Petroleum Institute ("API"), Energy Information Administration ("EIA"), and U.S. Environmental Protection Agency ("EPA"). Other assumptions required to perform inventory calculations were primarily sourced from The Climate Registry's General Reporting Protocol. A complete list of data sources relied upon for this analysis is included in the Annotated Bibliography in



APPENDIX  $\mathbf{D}$ . The data used in the calculations as well as the estimate calculations are detailed in



#### APPENDIX B.

# Annual Review of Inventory Estimates

Pace will review OPIC's portfolio annually and determine if projects should be removed or added to the inventory calculation and quantify the impacts of annual operational changes against the maximum PTE estimate. Pace will utilize the above methodology to screen these additional projects and estimate emissions going forward.

# Project Sponsor Feedback and Estimate Revisions

To support the accuracy of the estimates, OPIC solicited additional information and verification of project specific assumptions from the individual sponsors. The project sponsors had 30 days to reply to the solicitation with additional project details and 2008 operational emissions estimates. This feedback reflects OPIC's 2008 emissions inventory which includes emissions from 22 of the 25 projects on the final short list. When sponsor feedback was unavailable, the 2007 estimate was used to reflect 2008 emissions.

Based on sponsor feedback, two projects were removed from the inventory. The West African Gas Pipeline project was again not operational in 2008 and while Termovalle SCA is expected to increase its emissions over time its 2008 was below the 100,000 short ton threshold. Additionally, Trakya Elektrik was omitted from the inventory since they were not active as of September 30, 2009.

### RESULTS

OPIC's 2008 GHG Inventory is <u>33,285,571</u> short tons CO2, based on sponsor feedback and maximum PTE when sponsor comments were unavailable.

Exhibit 1: 2008 OPIC GHG Emissions Inventory Estimate by Project

Project Name	Location	Description	Capacity / Throughp ut	Fuel Type	Maximu m PTE (short tons CO2)	2007 Sponsor Reported Emission s Baseline (short tons CO2)	2007 Sponso r Feedba ck	FINAL 2008 Emissio ns (short tons CO2)	2008 Sponso r Feedba ck
Tier A Projects									
Adapazari Elektrik Uretim	Turkey	Combined Cycle	777 MW	Natural Gas	2,706,49 9	2,106,75 4	Yes	2,106,7 54	Yes
AES Jordan <sup>14</sup>	Jordan	Combined Cycle	10,103,6 03 MMBtu/	Natural Gas	1,288,80 9	0	Yes	590,940	Yes
AES Nigeria Barge	Nigeria	Engine-Based	yr 270 MW	Natural	1,603,30	1,166,39	Yes	1,341,1	Yes
Doga Enerji	Turkey	Power Generation Combined	180 MW	Gas Natural	816,057	740,762	Yes	740,762	Yes
		Cycle	1.03.634	Gas	-033/10/-	101442	77	100000	3.72

<sup>14</sup> AES Jordan: Commenced operation in June 2008 and therefore operated for less than 8,000 hours in 2008 (their emissions will be higher in the future years).



Gaza Private Generating PLC <sup>15</sup>	Gaza	Combined Cycle	136.4 MW	Natural Gas	487,658	293,804	Yes	303,535	Yes
Gebze Elektrik Uretim	Turkey	Combined Cycle	1554 MW	Natural Gas	5,412,99 8	4,121,92	Yes	4,121,9 23	Yes
Grenada Electricity Services (WRB) <sup>16</sup>	Grenada	Engine-Based Power Generation	18 MW	Diesel (Fuel Oil)	104,604	114,571	Yes	121,156	Yes
Habibullah Coastal Power	Pakistan	Combined Cycle	140 MW	Natural Gas	487,658	447,880	Yes	447,880	Yes
Isagen SA <sup>17</sup>	Colombi	Combined Cycle	300 MW	Natural Gas	696,654	203,010	Yes	13,746	Yes
Izmir Elektrik Uretim	Turkey	Combined Cycle	1554 MW	Natural Gas	5,412,99 8	4,694,38 0	Yes	4,694,3 80	Yes
Jorf Lasfar Energy <sup>18</sup>	Morocco	Steam Boiler	1356 MW	Coal	14,268,4 96	14,268,4 96	No	-	Yes
NEPC Consortium Power	Banglade sh	Engine-Based Power Generation	363,184 MMBtu/ yr	Natural Gas	383,159	245,795	Yes	343,581	Yes
Project Name	Location	Description	Capacity / Throughp ut	Fuel Type	Maximu m PTE (short tons CO2)	2007 Sponsor Reported Emission s Baseline (short tons CO2)	2007 Sponso r Feedba ck	FINAL 2008 Emissio ns (short tons CO2)	2008 Sponso r Feedba ck
Paiton Energy	Indonesi a	Steam Boiler	1200 MW	Coal	7,938,38	9,553,04	Yes	9,553,0 44	Yes
Pakistan Water & Power Authority	Pakistan	Combined Cycle	150 MW	Natural Gas	522,490	522,490	Yes	522,490	Yes
Termovalle SCA <sup>19</sup> Trakya Elektrik Uretim ve Ticaret <sup>20</sup>	Colombi a Turkey	Combined Cycle Combined Cycle	199 MW 478 MW	Natural Gas Natural Gas	714,070 1,818,91 2	0 1,747,95 6	Yes Yes	46,213	Yes Yes
Tier B Projects <sup>21</sup>									
Accroven SRL <sup>22</sup>	Venezuel a	NGL Facility	800 MMscfd	Natural Gas	998,677	998,677	Yes	445,832	Yes
Baku-Tblisi-Ceyhan Pipeline	Azerbaij an	Crude Oil Pipeline	247 million bbl	Natural Gas & Diesel	699,034	707,672	Yes	707,672	Yes
E.P. Interoil	Papua New Guinea	Crude Oil Refinery	358,798 MMBtu/ yr	Crude Oil	802,469	392,296	Yes	103,247	Yes
Equate Petrochemical <sup>23</sup>	Kuwait	Petrochemical	1540	Natural	720,573	720,573	Yes	680,311	Yes

-

 $<sup>^{15}</sup>$  Gaza  $\it Private$  Generating PLC: Operated less than 8000 hours in 2008.

<sup>16</sup> Grenada Electricity Services (WRB): This is an engine-based power plant.

<sup>17</sup> Isagen SA: Emissions for 2008 were 13,746 CO2e, as reported by the Sponsor. However, since they operated only a few days in 2008 their emissions were excluded from the 2008 Inventory.

<sup>&</sup>lt;sup>18</sup> Jorf Lasfar Energy: Emissions for 2008 were 14,268,496 CO2e, as reported by the Sponsor. However, since this project was not active as of Sep 30, 2009 it is not included in the 2008

<sup>&</sup>lt;sup>19</sup> Termovalle SCA: Emissions for 2008 were 46,213 CO2e, as reported by the Sponsor. Emissions are less than 100k tons but an increase in operating hours in future years is expected.

<sup>&</sup>lt;sup>20</sup> Trakya Elekrik Uretim Ve Ticaret: Emissions for 2008 were 1,484,377 CO2e, as reported by the Sponsor. However, since this project was not active as of Sep 30, 2009 it is not included in the 2008 Inventory.

<sup>21</sup> West AfricanGas Pipeline: Not Operational as of 2008 (was included in baseline), per sponsor feedback in 2007. No emissions, therefore, were reported for 2007 or 2008.

<sup>22</sup> Accroven: Sponsor provided feedback for 2007 in form of report but did not include GHG information for 2008. The PTE was used, as a result, for 2007.

<sup>23</sup> Equate Petrochemical: Sponsor provided feedback for 2007 after the report was issued. Actual 2007 operating emissions were 680,311 short tons. Emissions were greater than PTE due to increased capacity.



Laurence (Company)	7	Facility	MMBtu/ hr	Gas	,				
Foxtrot International	Cote	Gas	1736	Natural	270,804	104,484	Yes	104,484	Yes
	d'Ivoire	Extraction & Pipeline	MMscf/y	Gas					
Natural Gas Liquids II Financing	Nigeria	NGL Facility	19.5 MMscfd	Natural Gas	390,806	244,048	Yes	244,048	No
Various Egypt Subsidiaries	Egypt	Oil/Gas	29,934,7	Oil &	1,190,47	1,505,24	Yes	1,589,6	Yes
(Apache)		Extraction &	02 bbl/yr	Natural	6	7		53	
		Processing	& 89,910	Gas					
			MMscf/y						
			r						
Wilpro Energy Services (El	Venezuel	Gas		Natural					No
Furrial)	a	Compression	60 MW	Gas	289,106	289,106	Yes	289,106	
Wilpro Energy Services	Venezuel	Gas		Natural					No
(Pigap)	a	Compression	100 MW	Gas	507,923	571,090	Yes	571,090	



Totals			
Subtotal <sup>24</sup> :	50,532,617	45,760,455	29,623,044
Latin American Power III Funds <sup>25</sup> :	2,077,500	2,077,500	2,077,500
5% for Additional Sources <sup>26</sup> :		2,391,898	1,585,027
Total:	55,240,623	50,229,853	33,285,571

 $^{\rm 24}$  All projects not active as of Sep 30, 2009 were not included in the 2008 analysis

<sup>25</sup> Per agreement between Latin American Power III and OPIC, the Fund agreed to "not make an investment in a Portfolio Company if after such investment, the assets and operations of all Portfolio Companies then held by the Fund would emit (in the aggregate and on a calendar year basis) in excess of 2,077,500 short tons CO2 as calculated in accordance with the IPCC".

 $<sup>^{26}</sup>$  TCR Simplified Estimation Method suggests 5% reasonable error for inventory



## APPENDIX A

Table A-1: Active Project List includes a list of all OPIC projects active as of September 30, 2009 that were screened for this analysis. Table A-2: Initial Short List presents the initial shortlist of projects screened that were determined to have the potential to emit over 100,000 short tons of CO2.

Table A-1: Active Project List

Project Name FINANCE	Country	Sector
FIXED RATE FUNDING & LIQUIDITY LTD (HWD SPA)	ALGERIA	SVC
AEGIS INVESTMENT COMPANY	ALL OPIC COUNTRIES	FIN
BLUEORCHARD MICROFINANCE SECURITIES I LLC	ALL OPIC COUNTRIES	FIN
CALVERT SOCIAL INVESTMENT FOUNDATION	ALL OPIC COUNTRIES	FIN
CONSERVATION INTERNATIONAL FOUNDATION	ALL OPIC COUNTRIES	FIN
EMERGENCY LIQUIDITY FACILITY, L.P.	ALL OPIC COUNTRIES	FIN
MFX SOLUTIONS, INC.	ALL OPIC COUNTRIES	FIN
MICROFINANCE SECURITIES XXEB SA JUNIOR	ALL OPIC COUNTRIES	FIN
MICROFINANCE SECURITIES XXEB SA MEZZANINE	ALL OPIC COUNTRIES	FIN
MICROFINANCE SECURITIES XXEB SA SENIOR	ALL OPIC COUNTRIES	FIN
MICROVEST I, LP	ALL OPIC COUNTRIES	FIN
PROCREDIT HOLDING A.G.	ALL OPIC COUNTRIES	FIN
E+CO., INC	ALL OPIC COUNTRIES	POWER
TIVANNAH GLOBAL LDA	ANGOLA	MFR
S&N PUMP AFRICA, LDA	ANGOLA	SVC
BRAVO ENERGY ARGENTINA SCA	ARGENTINA	OIL

<sup>\*</sup> Information has been Redacted in accordance with the two principled exceptions of the Foreign Aid Transparency and Accountability Act (FATAA) of 2016; including the health and security of implementing partners, as well as national interest of the United States.



Project Name FINANCE	Country	Sector
COMPANIA GENERAL DE COMERCIO E INDUSTRIA SA	ARGENTINA	TOUR
DESARROLLOS DE LOS SUENOS, S.A.	ARGENTINA	TOUR
FIRST MORTGAGE COMPANY UCO, LLC	ARMENIA	FIN
WBC-ARDSHININVESTBANK CJSC	ARMENIA	FIN
ARMENIA HOTEL COMPLEX CLOSED JSC	ARMENIA	TOUR
DOMES INTERNATIONAL, INC.	ASIA REGIONAL	MFR
TBC KREDIT NON-BANKING CREDIT ORGANIZATI LLC	AZERBAIJAN	FIN
TBC KREDIT NON-BANKING CREDIT ORGANIZATI LLC	AZERBAIJAN	FIN
WBC-RABITABANK OJSC	AZERBAIJAN	FIN
WBC-TURANBANK OJSC	AZERBAIJAN	FIN
CASIA-PACIFIC BANGLADESH TELECOM LIMITED	BANGLADESH	COMM
CASIA-BRAC	BANGLADESH	FIN
NEPC CONSORTIUM POWER LTD.(HARIPUR)	BANGLADESH	POWER
VISTAS BELIZE LTD	BELIZE	CONS
RAPID MAIL COMPANY LIMITED	BELIZE	SVC
SERVICIO GRAFICOS QUIPUS	BOLIVIA	MFR
ROUMEL DEVELOPMENT CORPORATION	BOSNIA-HERZEGOVINA	CONS
ROUMEL DEVELOPMENT CORPORATION 2	BOSNIA-HERZEGOVINA	CONS
GOLDHAM PTY LTD.T/A KALAHARI GAS CORPORATION	BOTSWANA	OIL
RURALFONE, INC.	BRAZIL	COMM
AMEBRASIL CONSTRUCOES LIMITADA	BRAZIL	CONS
CSI LATINA FINANCIAL, INC/CSI LATINA ARRENDA	BRAZIL	FIN
NCB2-BANCO MERCANTIL DO BRASIL S.A.	BRAZIL	FIN
NCB3-BANCO PINE S.A.	BRAZIL	FIN
W3-BANCO FIBRA, S.A.	BRAZIL	FIN
W3-BANCO PINE, S.A.	BRAZIL	FIN
ACAI DO AMAPA AGROINDUSTRIAL LTDA.	BRAZIL	MFR
BRAZILIAN EMERALDS,INC.	BRAZIL	MINE
PRINCETON HEALTHCARE	BRAZIL	SVC
MORUMBY HOTEIS LTDA.	BRAZIL	TOUR
W2-FIRST INVESTMENT BANK BULGARIA	BULGARIA	FIN
CMFI-AGENCE DE CREDIT POUR L'ENTREPRISE PRIV	CAMEROON	FIN
NATURA BEVERAGE LLC	CAMEROON	MFR
NATURA BEVERAGE, LLC	CAMEROON	MFR
TB-DRISCOLL STRAWBERRY ASSOCIATES, INC.	CHILE	AGRI
SOCIEDAD CONCESIONARIA VESPUCIO NORTE EXPRES	CHILE	CONS



Project Name FINANCE	Country	Sector
COMPANIA MINERA PIMENTON SA	CHILE	MINE
LEAWOOD INVESTMENTS INC/BARRIEFIELD LLC	COLOMBIA	AGRI
PRODUCTORA DE PAPELES SA (PROPAL)	COLOMBIA	MFR
PRODUCTORA DE PAPELES SA (SUBORDINATED DEBT)	COLOMBIA	MFR
JOSHI TECHNOLOGIES INTERNATIONAL INC	COLOMBIA	MINE
JOSHI TECHNOLOGIES INTERNATIONAL, INC.	COLOMBIA	MINE
PARKO SERVICES, S.A.	COLOMBIA	OIL
PARKO SERVICES, S.A	COLOMBIA	OIL
CONDOMINIOS RIVERSIDE ETAPA II, S.A.	COSTA RICA	CONS
BANCO BAC SAN JOSE, S.A. (TRANCHE A)	COSTA RICA	FIN
BANCO BAC SAN JOSE, S.A. (TRANCHE B)	COSTA RICA	FIN
BANCO LAFISE S.A.	COSTA RICA	FIN
BANCO LAFISE, S.A. (TRANCHE 2)	COSTA RICA	FIN
BANCO LAFISE, S.A. (TRANCHE 3)	COSTA RICA	FIN
CCA2-BANCA PROMERICA, S.A.	COSTA RICA	FIN
CCA2-BANCO IMPROSA, S.A.	COSTA RICA	FIN
CCA2-GRUPO M HOLDING S.A.	COSTA RICA	FIN
WBC-IMPROSA SERVICIOS INTERNACIONALES S.A.	COSTA RICA	FIN
WESTSTAR PRECISION, INC.	COSTA RICA	MFR
CSA-REY BANANO DEL PACIFICO C.A.	ECUADOR	AGRI
CSA-BANCO PROCREDIT ECUADOR	ECUADOR	FIN
CORPORACION QUIPORT S.A.	ECUADOR	TRAN
BANCO DE AMERICA CENTRAL, S.A. (TRANCHE A)	EL SALVADOR	FIN
BANCO DE AMERICA CENTRAL, S.A. (TRANCHE B)	EL SALVADOR	FIN
CMFI-APOYO INTEGRAL, S.A. DE C.V.	EL SALVADOR	FIN
GOLDEN SIERRA PARTNERS, LLC	ESTONIA	MFR
MEDPHARM, INC.	ETHIOPIA	SVC
CSI LEASING POLSKA SP.Z.O.O ET AL	EUROPE REGIONAL	FIN
INTERNET GABON, SA	GABON	SVC
MIDDLE EAST INVESTMENT INITIATIVE, INC.	GAZA	FIN
MIDDLE EAST INVESTMENT INITIATIVE, INC.	GAZA	FIN
JSC IBERIA REAL ESTATE	GEORGIA	CONS
JSC SB IBERIA	GEORGIA	CONS
CHOUS-JOINT STOCK COMPANY TBC BANK	GEORGIA	FIN
JSC BANK OF GEORGIA	GEORGIA	FIN
JSC BANK OF GEORGIA	GEORGIA	FIN



Project Name FINANCE	Country	Sector
WBC-BANK OF GEORGIA	GEORGIA	FIN
WBC-GEORGIAN LEASING COMPANY, LLC	GEORGIA	FIN
SANTE GMT PRODUCTS LLC	GEORGIA	MFR
GMT MTATSMINDA, LLC	GEORGIA	SVC
GMT REAL ESTATE, LLC.	GEORGIA	SVC
JOINT STOCK COMPANY HOTEL TBILISI	GEORGIA	TOUR
AMERICAN MONOLITH LTD	GEORGIA	TRAN
PACIFIC INTERNATIONAL HOLDINGS, INC.	GEORGIA	TRAN
GHANA HOME LOANS (FUND 1) LIMITED	GHANA	FIN
AFRICAN-AMERICAN TRADING COMPANY, INC.	GHANA	MFR
CAMAS GHANA INC.	GHANA	MFR
SLID INDUSTRIES, LTD.	GHANA	MFR
LAGRAY CHEMICAL COMPANY LTD	GHANA	MFR
PHYTO-RIKER PHARMACEUTICALS LTD.	GHANA	MFR
INTERNATIONAL COMMUNITY SCHOOL LIMITED	GHANA	SVC
FLAMA DE ORO S.A.	GUATEMALA	AGRI
FLAMA DE ORO, S.A.	GUATEMALA	AGRI
LA FUTURA, S.A.	GUATEMALA	AGRI
BANCO DE AMERICA CENTRAL, S.A. (TRANCHE A)	GUATEMALA	FIN
BANCO DE AMERICA CENTRAL, S.A. (TRANCHE B)	GUATEMALA	FIN
CHOUS-BANRURAL S.A.	GUATEMALA	FIN
W3-BANCO REFORMADOR, S.A.	GUATEMALA	FIN
WBC-NUEVOS ALMACENES S.A. D/B/A/ CEMACO	GUATEMALA	SVC
ROTA INTERNATIONAL EXPORTING, LLC.	GUINEA-BISSAU	AGRI
CCA2-DIGICEL HONDURAS S.A. DE CV	HONDURAS	COMM
GHP(HONDURAS)LLC/GLOBAL HOUSING DEVELOPMENT	HONDURAS	CONS
BANCO DE AMERICA CENTRAL HONDURAS, S.A.(TR A	HONDURAS	FIN
BANCO DE AMERICA CENTRAL HONDURAS, S.A.(TR B	HONDURAS	FIN
BANCO LAFISE HONDURAS, S.A.	HONDURAS	FIN
BANCO LAFISE HONDURAS, S.A.	HONDURAS	FIN
CCA2-BANCO MERCANTIL, S.A.	HONDURAS	FIN
CHOUS-BANCO FINANCIERA COMMERCIAL HONDURENA	HONDURAS	FIN
INTER-MAC INTERNATIONAL, INC.	HONDURAS	FIN
W-BANCO FINANCIERA COMERCIAL HONDURENA	HONDURAS	FIN
W2-BANCO ATLANTIDA	HONDURAS	FIN
W2-BANCO DEL PAIS, S.A.	HONDURAS	FIN



Project Name FINANCE	Country	Sector
E+CO, INC.	HONDURAS	POWER
WBC-COMERCIAL LAEISZ, S.A. DE C.V.	HONDURAS	SVC
CASIA-SKS MICROFINANCE PRIVATE LTD.	INDIA	FIN
CASIA-SPANDANA SPHOORTY FINANCIALS LTD	INDIA	FIN
CMFI-ASA GRAMA VIDIYAL TRUST	INDIA	FIN
CMFI-BHARTIYA SAMRUDDHI FINANCE LTD.	INDIA	FIN
CMFI-FRIENDS OF WOMEN'S WORLD BANKING	INDIA	FIN
CMFI-GRAMEEN FINANCIAL SERVICES PRIVATE LTD	INDIA	FIN
CMFI-SKS MICROFINANCE PVT LTD	INDIA	FIN
CMFI-SPANDANA SPHOORTY FINANCIAL LIMITED	INDIA	FIN
REPCO HOME FINANCE LIMITED	INDIA	FIN
CEMA ELECTRIC LIGHTING PRODUCTS INDIA PVT LT	INDIA	MFR
WBC-PREFERRED BRANDS INTERNATIONAL, LLC	INDIA	MFR
WBC-PREFERRED BRANDS INTERNATIONAL, LLC	INDIA	MFR
AZURE POWER PUNJAB PRIVATE LIMITED	INDIA	POWER
HUSK POWER SYSTEMS, INC.	INDIA	POWER
PT. PADI MURNI INDONESIA	INDONESIA	MFR
PT. TUCAN PUMPCO SERVICES INDONESIA	INDONESIA	OIL
PAITON ENERGY COMPANY	INDONESIA	POWER
PAITON ENERGY COMPANY	INDONESIA	POWER
INTERNATIONAL DEVELOPMENT TRUST IRAQ	IRAQ	CONS
SIGMA INTERNATIONAL CONSTRUCTION LLC.	IRAQ	CONS
IRAQ MIDDLE MARKET DEVELOPMENT FOUNDATION	IRAQ	FIN
IRAQ MIDDLE MARKET DEVELOPMENT FOUNDATION	IRAQ	FIN
IRAQ MIDDLE MARKET DEVELOPMENT FOUNDATION	IRAQ	FIN
IRAQ MIDDLE MARKET DEVELOPMENT FOUNDATION	IRAQ	FIN
TRADE BANK OF IRAQ	IRAQ	FIN
SUMMIT HOTELS LIMITED/SUMMIT GLOBAL GROUP	IRAQ	TOUR
EPISCOPAL CHURCH OF JERUSALEM & THE MIDDLE E	ISRAEL	CONS
AMERICAN INTERNATIONAL SCHOOL OF KINGSTON	JAMAICA	SVC
ARAB BANK PLC	JORDAN	FIN
CAIRO AMMAN BANK	JORDAN	FIN
CMFI-TAMWEELCOM	JORDAN	FIN
HOUSING BANK FOR TRADE & FINANCE	JORDAN	FIN
CAFR-MIDDLE EAST COMPLEX FOR ENGINEERING	JORDAN	MFR
AES JORDAN PSC	JORDAN	POWER



Project Name FINANCE	Country	Sector
DISI WATER PSC	JORDAN	SVC
CHOUS2-JSC BANK CENTERCREDIT	KAZAKHSTAN	FIN
CHOUS2-JSC HALYK SAVINGS BANK	KAZAKHSTAN	FIN
CNIS-JSC HALYK BANK	KAZAKHSTAN	FIN
NCB2 -BANK TURAN ALEM	KAZAKHSTAN	FIN
NCB2 -BANK TURAN ALEM	KAZAKHSTAN	FIN
NCB3-ALLIANCE BANK JSC	KAZAKHSTAN	FIN
NCB3-ATF BANK JSC	KAZAKHSTAN	FIN
NCB3-BANK CENTER CREDIT JSC	KAZAKHSTAN	FIN
W2-ALLIANCE BANK	KAZAKHSTAN	FIN
W2-JSC BANK TURAN ALEM	KAZAKHSTAN	FIN
JOPA VILLAS, LLC	KENYA	CONS
CMFI-FAULU KENYA	KENYA	FIN
CMFI-K-REP BANK	KENYA	FIN
CMFI-KENYA WOMEN FINANCE TRUST LTD ("KWFT")	KENYA	FIN
CMFI-KENYA WOMEN FINANCE TRUST LTD ("KWFT2")	KENYA	FIN
GEOSURVEY INTERNATIONAL LLC	KENYA	SVC
LIVING WATER INTERNATIONAL	KENYA	SVC
MAJESTIC GROUP KOREA, LTD.	KOREA (SOUTH)	SVC
INTERNATIONAL VILLAGE SH.P.K.	KOSOVO	CONS
WBC-FORESTRADE, INC	LATIN AMERICA REGIONAL	AGRI
CSI LATINA FINANCIAL,INC/CSI LEASING DE CENT	LATIN AMERICA REGIONAL	FIN
EMERGENCY LIQUIDITY FACILITY, L.P.	LATIN AMERICA REGIONAL	FIN
GLOBAL PARTNERSHIPS MICROFINANCE FUND2006LLC	LATIN AMERICA REGIONAL	FIN
GLOBAL PARTNERSHIPS MICROFINANCE FUND2008LLC	LATIN AMERICA REGIONAL	FIN
GLOBAL PARTNERSHIPS MICROFINANCE FUND2008LLC	LATIN AMERICA REGIONAL	FIN
CHF LEBANON-FRANSABANK S.A.L.	LEBANON	FIN
CHF/L-CREDIT LEBANAIS BANK	LEBANON	FIN
CHF/L-FRANSABANK S.A.L.	LEBANON	FIN
CHF/L-JAMAL TRUST BANK S.A.L.	LEBANON	FIN
CHF/L-LEBANESE CANADIAN BANK	LEBANON	FIN
CLEB-BANKMED S.A.L.	LEBANON	FIN
CLEB-BANQUE LIBANO-FRANCAISE S.A.L.	LEBANON	FIN
CLEB-BYBLOS BANK S.A.L.	LEBANON	FIN
CLEB2-BANK AUDI SAL-AUDI SARADAR GROUP	LEBANON	FIN
CLEB2A-BANK AUDI SAL-AUDI SARADAR GROUP	LEBANON	FIN



Project Name FINANCE	Country	Sector
CLEB2A-BYBLOS BANK SAL	LEBANON	FIN
THE COOPERATIVE HOUSING FOUNDATION LEBANON	LEBANON	FIN
SABLE-CELLCOM TELECOMMUNICATIONS INC	LIBERIA	COMM
SABLE-CELLCOM TELECOMMUNICATIONS INC	LIBERIA	COMM
RLJ LIBERIA, LLC	LIBERIA	CONS
LIBERIAN ENTERPRISE DEVELOPMENT FINANCE CO.	LIBERIA	FIN
BUCHANAN RENEWABLES FUEL INC.	LIBERIA	MFR
BUCHANAN RENEWABLES (MONROVIA) POWER INC.	LIBERIA	POWER
AMERICAN INTERNATIONAL SCHOOL OF MONROVIA IN	LIBERIA	SVC
ADOBERIA SAHEL, S.A.	MALI	MFR
AMERICAN INTERNATIONAL SCHOOL OF BAMAKO	MALI	SVC
CASAMAR MAURITIUS, LTD./CASAMAR INDIAN OCEAN	MAURITIUS	MFR
TB-ANDREW & WILLIAMSON FRESH PRODUCE	MEXICO	AGRI
WBC-MARICULTURA DEL NORTE, S.DE R.L. DE C.V.	MEXICO	AGRI
WBC-SOUTHERN VALLEY FRUIT & VEGETABLE, INC.	MEXICO	AGRI
WBC-MONOLITHIC HOUSING S.A.	MEXICO	CONS
BAN-CREDITO INMOBILARIO S.A. DE C.V.	MEXICO	FIN
CMFI-FUNDACION INTEGRAL COMUNITARIA (FINCA)	MEXICO	FIN
CSI LATINA FINANCIAL, INC./CSI LEASING MEXIC	MEXICO	FIN
PROMOTORA DE INFRAESTRUCTURA REGISTRAL, S.A.	MEXICO	FIN
REFORMA BLN-BACKED I	MEXICO	FIN
SALVATIERRA DESARROLLOS URBANOS, S.A. DE C.V	MEXICO	FIN
VEHICULOS LIQUIDOS FINANCIEROS SAPI DE C.V.	MEXICO	FIN
WBC-DOCUFORMAS S.A.P.I. DE C.V.	MEXICO	FIN
PREFABRICADOS Y MODULARES DE MONTERREY(PYMM)	MEXICO	MFR
WBC-CORPORATIVO PAPELERO Y DE SUMINISTROS BA	MEXICO	MFR
BRAVO ENERGY MEXICO SRL DE CV	MEXICO	OIL
DEXTER SAFETY & INDUSTRIAL PRODUCTS, INC.	MEXICO	SVC
UMBRALCAPITAL, S.A.P.I. DE C.V.	MEXICO	SVC
WBC-VALLARTA VISION Y MISION A.C.	MEXICO	SVC
RED CARRETERAS DE OCCIDENTE, S. DE RL DE CV	MEXICO	TRAN
BANCA DE FINANTE SI COMERT S.A.	MOLDOVA	FIN
WBC-ICS PRIME CAPITAL SRL	MOLDOVA	FIN
WBC-KELLEY GRAINS CORPORATION S.R.L.	MOLDOVA	MFR
IKH TOKHOIROL XXK	MONGOLIA	MINE
MONGOLIAN RESORTS XXK	MONGOLIA	TOUR



Project Name FINANCE	Country	Sector
GAMETRACKERS MANAGEMENT LTD (NYATI LODGE)	MOZAMBIQUE	TOUR
MERCURY INVESTMENTS LIMITADA	MOZAMBIQUE	TOUR
NAMGEM TRADING BVI LIMITED	NAMIBIA	MFR
BANCO DE AMERICA CENTRAL, S.A. (TRANCHE A)	NICARAGUA	FIN
BANCO DE AMERICA CENTRAL, S.A. (TRANCHE B)	NICARAGUA	FIN
BANCO DE CREDITO CENTROAMERICANO, S.A.	NICARAGUA	FIN
BANCO DE CREDITO CENTROAMERICANO, S.A.	NICARAGUA	FIN
BANCO DE CREDITO CENTROAMERICANO, S.A.	NICARAGUA	FIN
CHOUS-BANCO DE LA PRODUCCION S.A.	NICARAGUA	FIN
GILBERTO J.M.GONZALEZ/DBA/FERRETERIA MORALES	NICARAGUA	SVC
INSTITUTO CULINARIO SANTA LUCIA,S.A.	NICARAGUA	SVC
NGL FUNDING LIMITED	NIGERIA	OIL
AMERICAN INTERNATIONAL SCHOOL OF ABUJA	NIGERIA	SVC
CAFR-AMERICAN INTERNATIONAL SCHOOL LAGOS	NIGERIA	SVC
CITIBANK, N.A.(RUSSIA/CIS LENDING FACILITY)	NIS REGIONAL	FIN
CPAK-PAKISTAN MOBILE COMMUNICATION(PMCL)	PAKISTAN	COMM
CITIBANK, N.A.(PAKISTAN ON LENDING FACILITY)	PAKISTAN	FIN
CPAK2-KASHF FOUNDATION	PAKISTAN	FIN
EMERGING MARKETS CONSULTING (PRIVATE) LTD.	PAKISTAN	FIN
TAMEER MICROFINANCE BANK LIMITED	PAKISTAN	FIN
CPAK2-ENGRO VOPAK TERMINAL LTD	PAKISTAN	MFR
SWEETWATER PAKISTAN (PRIVATE) LIMITED	PAKISTAN	MFR
AMERICAN INTERNATIONAL SCHOOL SYSTEMS, INC.	PAKISTAN	SVC
CSA-DIGICEL PANAMA S.A.	PANAMA	COMM
BAC INTERNATIONAL BANK, INC. (TRANCHE A)	PANAMA	FIN
BAC INTERNATIONAL BANK, INC. (TRANCHE B)	PANAMA	FIN
W3-CREDICORP BANK, S.A.	PANAMA	FIN
DESARROLLO DE RIO PACORA SA	PANAMA	MFR
DESARROLLO DE RIO PACORA SA	PANAMA	MFR
GLOBAL DESIGN, S.A.	PANAMA	SVC
E.P. INTEROIL, LTD.	PAPUA NEW GUINEA	MFR
CSA-BANCO REGIONAL, S.A.	PARAGUAY	FIN
CSA-BBVA PARAGUAY S.A.	PARAGUAY	FIN
CSA-INTERBANCO S.A.	PARAGUAY	FIN
GLOBOKAS PERU, S.A.C.	PERU	FIN
W3-BANCO FINANCIERO DEL PERU, S.A.	PERU	FIN



Project Name FINANCE	Country	Sector
W3-BANCO INTERAMERICANO DE FINANZAS, S.A.	PERU	FIN
CSA-CORPORACION JOSE R. LINDLEY, S.A.	PERU	MFR
CSA-CORPORACION JOSE R. LINDLEY, SA-2	PERU	MFR
NORTH AMERICAN FLOAT PLANE SERVICE SAC	PERU	TRAN
CMFI-CENTER FOR AGRICULTURE & RURAL DEVELOP	PHILIPPINES	FIN
COUNTERPART INTERNATIONAL, INC.	PHILIPPINES	FIN
GOLDEN CYPRESS WATER CO. LTD.	PHILIPPINES	MFR
AMTECH SP.ZO.O	POLAND	CONS
PALCO SP.ZO.O.	POLAND	MFR
LODOM SP.ZO.O-FACILITY B	POLAND	TRAN
CAPA FINANCE SA	ROMANIA	FIN
CMFI-OPPORTUNITY MICROCREDIT ROMANIA ("OMRO"	ROMANIA	FIN
EXPRESS FINANCE-INSTITUTIE FINANCIARA NEBAN	ROMANIA	FIN
THE COOPERATIVE HOUSING FOUNDATION	ROMANIA	FIN
THE COOPERATIVE HOUSING FOUNDATION	ROMANIA	FIN
VERIDA CREDIT IFN S.A.	ROMANIA	FIN
DMITROV DAIRY FARMS, CJSC	RUSSIA	AGRI
ZAO STAR NETWORKS	RUSSIA	COMM
ZAO STAR NETWORKS	RUSSIA	COMM
CLOSED JOINT STOCK COMPANY DELTALEASING	RUSSIA	FIN
CMFI-CJSC FORUS BANK	RUSSIA	FIN
GREENWICH FINANCIAL SERVICES, L.L.C.	RUSSIA	FIN
NCB-NBD BANK, JOINT-STOCK COMPANY	RUSSIA	FIN
NCB-OJSC SIBACADEMBANK	RUSSIA	FIN
NCB2-JSC PROMSVYAZBANK	RUSSIA	FIN
NCB3-CENTER-INVEST BANK JSC	RUSSIA	FIN
NCB3-LOCKO BANK	RUSSIA	FIN
NCB3-ROSEUROBANK	RUSSIA	FIN
NCB3-TRANSCAPITAL BANK JSC	RUSSIA	FIN
RKU FRANCHISING LIMITED	RUSSIA	FIN
W2-PROBUSINESSBANK	RUSSIA	FIN
WBC-INDEPENDENT LEASING, LLC	RUSSIA	FIN
WBC-NBD BANK	RUSSIA	FIN
WBC-OJSC COMMERCIAL BANK "SDM-BANK"	RUSSIA	FIN
WBC-SOTSYALNIY GORODSKOY BANK (SOTSGORBANK)	RUSSIA	FIN
WBC-ZAO DELTALEASING	RUSSIA	FIN



Project Name FINANCE	Country	Sector
ZAO COMMERCIAL BANK DELTACREDIT	RUSSIA	FIN
ZAO EUROPLAN	RUSSIA	FIN
ZAO EUROPLAN	RUSSIA	FIN
NUMOTECH, INC.	RUSSIA	MFR
V G ENTERPRISES, INC.	RUSSIA	MFR
WBC-JSC POLIGRAF LAND	RUSSIA	MFR
ZAO NUMOTECH-SPEKTR	RUSSIA	MFR
ZAO SOLNTSE MEXICO	RUSSIA	MFR
RPK-VYSOTSK "LUKOIL-II"	RUSSIA	OIL
ABAMEDIA, L.P.(TRANCHE A)	RUSSIA	SVC
NEW YORK PIZZA CO. LTD.	RUSSIA	SVC
PJ DEVELOPMENT LLC	RUSSIA	SVC
SUBWAY RUSSIA, LLC	RUSSIA	SVC
WBC-ZAO AIRES	RUSSIA	SVC
WBC-ZAO AIRES	RUSSIA	SVC
HERMITAGE HOSPITALITY FRANCHISING LIMITED	RUSSIA	TOUR
SOUTH AFRICA FINANCING ENTERPRISE	SOUTH AFRICA	CONS
BLUE FINANCIAL SERVICES LIMITED	SOUTH AFRICA	FIN
HOUSING FOR HIV, INC.	SOUTH AFRICA	FIN
WBC-BLUE FINANCIAL SERVICES LIMITED	SOUTH AFRICA	FIN
PURPLE RHINO IMPORTS, INC.	SOUTH AFRICA	MFR
CASIA-LANKA ORIX LEASING COMPANY LTD.	SRI LANKA	FIN
CAFR-MIC TANZANIA LIMITED (TZS)	TANZANIA	COMM
CAFR-MIC TANZANIA LIMITED (USD)	TANZANIA	COMM
BRAC AFRICA MICROFINANCE, LTD. (CLASS A)	TANZANIA	FIN
BRAC AFRICA MICROFINANCE, LTD. (CLASS B)	TANZANIA	FIN
TANRUSS INVESTMENT LTD	TANZANIA	TOUR
TANRUSS INVESTMENT LTD	TANZANIA	TOUR
PACIFIC SUBSEA SAIPAN 2	THAILAND	TRAN
PACIFIC SUBSEA SAIPAN 3	THAILAND	TRAN
PACIFIC SUBSEA SAIPAN, INC.	THAILAND	TRAN
CONTOURGLOBAL TOGO S.A.	TOGO	POWER
RB-AMERICAN COOPERATIVE SCHOOL OF TUNIS	TUNISIA	SVC
NCB2 -OYAK BANK A.S.	TURKEY	FIN
NCB2-ASYA KATILIM BANKASI A.S.	TURKEY	FIN
NCB2-TURK EKONOMI BANKASI A.S. PURPOSE B	TURKEY	FIN



Project Name FINANCE	Country	Sector
NCB2-TURK EKONOMI BANKASI A.S.(T.E.B.)	TURKEY	FIN
TURKIYE GARANTI BANKASI A.S.	TURKEY	FIN
W-OYAK BANK	TURKEY	FIN
W2-AKBANK T.A.S.	TURKEY	FIN
W2-ANADOLUBANK	TURKEY	FIN
W2-ASYA KATILIM BANKASI A.S.	TURKEY	FIN
W2-FINANSBANK A.S.	TURKEY	FIN
W2-OYAK BANK A.S.	TURKEY	FIN
W2-TURK EKONOMI BANK	TURKEY	FIN
W3-BANKPOZITIF KREDIT VE KALKINAM BANKASI	TURKEY	FIN
W3-SEKERBANK A.S.	TURKEY	FIN
W3-TURKIYE GARANTI BANKASI AS	TURKEY	FIN
DT METAL GERI KAZANIM TEKNOLOJILERI SANAYI	TURKEY	MFR
WBC-FERSAN FERMANTASYON URUN SAN. VE TIC.A.S	TURKEY	MFR
WBC-DELTA PLASTIK ENDUSTRISI A.S.	TURKEY	MFR
WBC-KAYNAK SULARI VE TURIZM A.S.	TURKEY	MFR
WBC-INTERFARMA TIBBI MALZEMELER SANAYI VE TI	TURKEY	MFR
WBC-SFC ENTEGRE ORMAN URUNLERI SANAYI VE TIC	TURKEY	MFR
ADAPAZARI ELEKTRIK URETIM LTD. SIRKETI	TURKEY	POWER
DOGA ENERJI	TURKEY	POWER
GEBZE ELEKTRIK URETIM LTD SIRKETI	TURKEY	POWER
IZMIR ELEKTRIK URETIM LTD SIRKETI	TURKEY	POWER
ISTANBUL INTERNATIONAL COMMUNITY SCHOOL (B)	TURKEY	SVC
ISTANBUL INTERNATIONAL COMMUNITY SCHOOL, INC.	TURKEY	SVC
M/N BUTLER MIMARLAR ARASTIRMA TASARI LTD.	TURKEY	TOUR
SOM OTELCILIK VE TURIZM TICARET A.S.	TURKEY	TOUR
SOM OTELCILIK VE TURIZM TICARET A.S.	TURKEY	TOUR
CMFI-PRIDE UGANDA	UGANDA	FIN
CMFI-UGANDA FINANCE TRUST	UGANDA	FIN
MAPSWITCH UGANDA LTD	UGANDA	FIN
INTERNATIONAL MORTGAGE BANK	UKRAINE	FIN
PROCREDIT BANK	UKRAINE	FIN
PROCREDIT BANK (TRANCHE 2)	UKRAINE	FIN
WBC-ATLANTIC GROUP LIMITED	UKRAINE	SVC
WINNER GROUP UKRAINE, INC.	UKRAINE	SVC
O&S CONSULTING, L.L.C.	UZBEKISTAN	CONS



Project Name	Country	Sector
FINANCE		200
MALIKA HOTEL BUKHARA, LLC	UZBEKISTAN	TOUR
RAYMOND DE VENEZUELA, C.A.	VENEZUELA	MFR
RAYMOND DE VENEZUELA, C.A.	VENEZUELA	MFR
ACCROVEN SRL	VENEZUELA	OIL
WILPRO ENERGY SERVICES (EL FURRIAL) LIMITED	VENEZUELA	OIL
WILPRO ENERGY SERVICES (PIGAP II) LTD.	VENEZUELA	OIL
AUSTRALIS AQUACULTURE LLC	VIETNAM	AGRI
MEII-BANK OF PALESTINE (WATANIYA)	WEST BANK	COMM
MEII-QUDS BANK (WATANIYA)	WEST BANK	COMM
AMAL-BANK OF PALESTINE (BOP) MORTGAGE CORP I	WEST BANK	FIN
AMAL-BANK OF PALESTINE MORTGAGE CORP II	WEST BANK	FIN
AMAL-CAIRO AMMAN BANK (CAB)MORTGAGE CORP I	WEST BANK	FIN
AMAL-CAIRO AMMAN BANK MORTGAGE CORP II	WEST BANK	FIN
MEII-AL RAFAH BANK	WEST BANK	FIN
MEII-AL-QUDS BANK FOR DEVELOPMENT & INVEST	WEST BANK	FIN
MEII-BANK OF JORDAN	WEST BANK	FIN
MEII-BANK OF PALESTINE	WEST BANK	FIN
MEII-CAIRO AMMAN BANK	WEST BANK	FIN
MEII-HOUSING BANK FOR TRADE AND FINANCE	WEST BANK	FIN
MEII-JORDAN AHLI BANK	WEST BANK	FIN
MEII-PALESTINE COMMERCIAL BANK	WEST BANK	FIN
CASIA-DIGICEL (SAMOA) LIMITED	WESTERN SAMOA	COMM
HFA ZAMBIA LIMITED	ZAMBIA	FIN
AMERICAN EMBASSY SCHOOL OF LUSAKA	ZAMBIA	SVC



Project Name	Country	Sector
Insurance		
WABA - SOCIEDADE INDUSTRIAL E COMERCIAL,		
A.R.L.	ANGOLA	MANUFACTURING
I/A	ANGOLA	SERVICES
&N PUMP AFRICA LDA	ANGOLA	SERVICES
INCA LA CRUZ	ARGENTINA	AGRICULTURE
I/A	ARMENIA	SERVICES
HE BAKU-TBILISI-CEYHAN PIPELINE COMPANY	AZERBAIJAN	ENERGY - OIL ANI GAS
		FINANCIAL
CREDAGRO	AZERBAIJAN	SERVICES FINANCIAL
NKISHAF UNCHUN MALIYYE ("FINDEV")	AZERBAIJAN	SERVICES
ORWEGIAN MICROCREDIT LLC ("NORMICRO")	AZERBAIJAN	FINANCIAL SERVICES
NTERNATIONAL RESCUE COMMITTEE, INC.	AZERBAIJAN	SERVICES
I/A	AZERBAIJAN	SERVICES
ELIEF INTERNATIONAL BRANCH OFFICE	AZERBAIJAN	SERVICES
ELIEF INTERNATIONAL BRANCH OFFICE	AZERBAIJAN	SERVICES
ELIEF INTERNATIONAL BRANCH OFFICE	AZERBAIJAN	SERVICES
I/A	BANGLADESH	SERVICES
ELIEF INTERNATIONAL BRANCH OFFICE	BANGLADESH	SERVICES
	BANGLADESH	SERVICES
ELIEF INTERNATIONAL BRANCH OFFICE ELIEF INTERNATIONAL BRANCH OFFICE	BANGLADESH	SERVICES

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<sup>\*</sup> Information has been Redacted in accordance with the two principled exceptions of the Foreign Aid Transparency and Accountability Act (FATAA) of 2016; including the health and security of implementing partners, as well as national interest of the United States.



THE ASIA FOUNDATION	BANGLADESH	SERVICES
THE ASIA FOUNDATION	BANGLADESH	SERVICES
WEST AFRICAN GAS PIPELINE COMPANY LIMITED	BENIN	ENERGY - OIL AND GAS
AXS BOLIVIA S.A.	BOLIVIA	COMMUNICATION
FUNDACIÓN BOLIVIANA PARA EL DESARROLLO DE LA MUJER	BOLIVIA	FINANCIAL SERVICES
FUNDACIÓN BOLIVIANA PARA EL DESARROLLO DE LA		FINANCIAL
MUJER	BOLIVIA	SERVICES
EMPRESA MINERA MANQUIRI S.A.	BOLIVIA	MINING FINANCIAL
MIKROKREDITNA ORGANIZACIJA MI-BOSPO	BOSNIA-HERZEGOVINA	SERVICES
INTERNATIONAL RESCUE COMMITTEE, INC.	BOSNIA-HERZEGOVINA	SERVICES
N/A	BOSNIA-HERZEGOVINA	SERVICES
BRASIL TELECOM, S.A.	BRAZIL	COMMUNICATION
RURALFONE DO BRASIL, LTDA.	BRAZIL	COMMUNICATION
RURALFONE DO BRASIL, LTDA.	BRAZIL	COMMUNICATION
RURALFONE DO BRASIL, LTDA.	BRAZIL	COMMUNICATION
RURALFONE DO BRASIL, LTDA.	BRAZIL	COMMUNICATION
RURALFONE DO BRASIL, LTDA.	BRAZIL	COMMUNICATION
RURALFONE DO BRASIL, LTDA.	BRAZIL	COMMUNICATION FINANCIAL
BANCO PINE	BRAZIL	SERVICES
ACAI DO AMAPA AGROINDUSTRIAL LTDA.	BRAZIL	MANUFACTURING
INTERNATIONAL RESCUE COMMITTEE	BURUNDI	SERVICES
THE ASIA FOUNDATION	CAMBODIA	SERVICES
THE ASIA FOUNDATION	CAMBODIA	SERVICES
NATURA BEVERAGE SARL INTERNATIONAL RESCUE COMMITTEE, INC. BRANCH	CAMEROON CENTRAL AFRICAN	MANUFACTURING
OFFICES	REPUBLIC	SERVICES
TERMOVALLE S.C.AE.S.P.	COLOMBIA	<b>ENERGY - POWER</b>
TERMOVALLE S.C.A. E.S.P.	COLOMBIA	<b>ENERGY - POWER</b>
SECTOR RESOURCES, LTD. BRANCH	COLOMBIA	MINING
SECTOR RESOURCES, LTD. BRANCH	COLOMBIA	MINING
INTERNATIONAL RESCUE COMMITTEE	COLOMBIA	SERVICES
MINOTERIE DU CONGO, S.A.	CONGO	MANUFACTURING
MINOTERIE DU CONGO, S.A.	CONGO	MANUFACTURING
INTERNATIONAL RESCUE COMMITTEE, INC. INTERNATIONAL RESCUE COMMITTEE, INC. BRANCH	CONGO	SERVICES
OFFICES	CONGO	SERVICES



Project Name Insurance	Country	Sector
MINOTERIE DE MATADI, S.A.R.L.	CONGO, DEM. REPUBLIC OF	MANUFACTURING
MINOTERIE DE MATADI, S.A.R.L.	CONGO, DEM. REPUBLIC OF	MANUFACTURING
MINOTERIE DE MATADI, S.A.R.L. INTERNATIONAL RESCUE COMMITTEE, INC. BRANCH	CONGO, DEM. REPUBLIC OF	MANUFACTURING
OFFICES	CONGO, DEM. REPUBLIC OF	SERVICES
COLITE COSTA RICA, S.A.	COSTA RICA	SERVICES
FOXTROT INTERNATIONAL LDC	COTE DIVOIRE	ENERGY - OIL AND GAS ENERGY - OIL AND
FOXTROT INTERNATIONAL LDC	COTE DIVOIRE	GAS FINANCIAL
PROFICIO D.D.	CROATIA	SERVICES
DOMINICA ELECTRICITY SERVICES LTD. ("DOMLEC")	DOMINICA	<b>ENERGY - POWER</b>
THE ASIA FOUNDATION	EAST TIMOR	SERVICES
THE ASIA FOUNDATION	EAST TIMOR	SERVICES
D-MIRO, MISIÓN ALIANZA-ECUADOR, VÍA PERIMETRAL, ISLA D-MIRO, MISIÓN ALIANZA-ECUADOR, VÍA PERIMETRAL,	ECUADOR	FINANCIAL SERVICES FINANCIAL
ISLA	ECUADOR	SERVICES
D-MIRO, MISIÓN ALIANZA-ECUADOR, VÍA PERIMETRAL, ISLA D-MIRO, MISIÓN ALIANZA-ECUADOR, VÍA PERIMETRAL,	ECUADOR	FINANCIAL SERVICES FINANCIAL
ISLA D-MIRO, MISIÓN ALIANZA-ECUADOR, VÍA PERIMETRAL,	ECUADOR	SERVICES FINANCIAL
ISLA	ECUADOR	SERVICES
CORPORACION QUIPORT S.A.	ECUADOR	TRANSPORTATION
CORPORACION QUIPORT S.A.	ECUADOR	TRANSPORTATION ENERGY - OIL AND
N/A	EGYPT	GAS ENERGY - OIL AND
VARIOUS APACHE EGYPT CONCESSION SUBSIDIARIES	EGYPT	GAS
COLITE EL SALVADOR S.A., C/O RUSCONI -	EL SALVADOR	SERVICES
INTERNATIONAL RESCUE COMMITTEE - ERITREA INTERNATIONAL RESCUE COMMITTEE - BRANCH	ERITREA	SERVICES
OFFICES	ETHIOPIA	SERVICES
N/A	ETHIOPIA	SERVICES
AMERICAN DREAM HOME, S.C.I.	GABON	CONSTRUCTION FINANCIAL
JSC TBC BANK	GEORGIA	SERVICES
N/A WEST AFRICAN GAS PIPELINE COMPANY LIMITED	GEORGIA GHANA	SERVICES ENERGY - OIL AND GAS



Project Name Insurance	Country	Sector
GHANA HOME LOANS (FUND I) LIMITED	GHANA	FINANCIAL SERVICES FINANCIAL
SINAPI ABA TRUST	GHANA	SERVICES
INTERNATIONAL COMMUNITY SCHOOL, LIMITED	GHANA	SERVICES
N/A	GHANA	SERVICES
GRENADA ELECTRICITY SERVICES LIMITED	GRENADA	ENERGY - POWER
COLITE GUATEMALA, S.A.	GUATEMALA	SERVICES
INTERNATIONAL RESCUE COMMITTEE, INC GUINEA	GUINEA	SERVICES
LES MOULINS D'HAITI S.E.M. (LMH)	HAITI	MANUFACTURING
LES MOULINS D'HAITI S.E.M. (LMH)	HAITI	MANUFACTURING
N/A	HAITI	SERVICES
COLITE HONDURAS, S.A.	HONDURAS	SERVICES
SEP ENERGY INDIA PVT. LTD.	INDIA	ENERGY - POWER
SEP ENERGY INDIA PVT. LTD.	INDIA	ENERGY - POWER ENERGY - OIL AND
PT TUCAN PUMPCO SERVICES INDONESIA	INDONESIA	GAS
INTERNATIONAL RESCUE COMMITTEE - JAKARTA	INDONESIA	SERVICES
IL. ADITYAWARMAN	INDONESIA	SERVICES
IL. ADITYAWARMAN	INDONESIA	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	INDONESIA	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	INDONESIA	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	INDONESIA	SERVICES
KHUDAIRI TRADING COMPANY LTD.	IRAQ	SERVICES
DAR ES SALAAM INSURANCE COMPANY	IRAQ	TOURISM/HOTELS
DISI WATER PSC	JORDAN	SERVICES
N/A	JORDAN	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICES	JORDAN	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICES	JORDAN	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICES	JORDAN	SERVICES
THE INTERNATIONAL RESCUE COMMITTEE	JORDAN	SERVICES
N/A	KAZAKHSTAN	SERVICES
INTERNATIONAL RESCUE COMMITTEE - KENYA	KENYA	SERVICES
N/A	KENYA	SERVICES FINANCIAL
GENWORTH MORTGAGE INSURANCE CORP, KOREA	KOREA (SOUTH)	SERVICES
THE ASIA FOUNDATION	KOREA (SOUTH)	
THE ASIA FOUNDATION	KOREA (SOUTH)	SERVICES



Project Name Insurance	Country	Sector
EQUATE PETROCHEMICAL COMPANY K.S.C. (CLOSED)	KUWAIT	MANUFACTURING
KOMPANION FINANCIAL GROUP MICRO CREDIT LIMITED LIABILITY CO.	KYRGYZ REPUBLIC	FINANCIAL SERVICES
KOMPANION FINANCIAL GROUP MICRO CREDIT LIMITED LIABILITY CO.	KYRGYZ REPUBLIC	FINANCIAL SERVICES
JOINT VENTURE ITALKYR CJSC	KYRGYZ REPUBLIC	TOURISM/HOTELS
JOINT VENTURE ITALKYR CJSC	KYRGYZ REPUBLIC	TOURISM/HOTELS
JOINT VENTURE ITALKYR CJSC	KYRGYZ REPUBLIC	TOURISM/HOTELS FINANCIAL
BANK AUDI SAL-AUDI SARADAR GROUP	LEBANON	SERVICES
AMERICAN UNIVERSITY OF BEIRUT	LEBANON	SERVICES
N/A	LEBANON	SERVICES
N/A	LEBANON	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICES	LEBANON	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICES	LEBANON	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICES	LEBANON	SERVICES
LESOTHO FLOUR MILLS LIMITED	LESOTHO	MANUFACTURING
NATIONWIDE GROUP OF COMPANIES, INC.	LIBERIA	MANUFACTURING
INTERNATIONAL RESCUE COMMITTEE	LIBERIA	SERVICES
KWAPLAH INTERNATIONAL (LIBERIA), INC.	LIBERIA	SERVICES
KWAPLAH INTERNATIONAL (LIBERIA), INC.	LIBERIA	SERVICES
RLJ LIBERIA LLC	LIBERIA	TOURISM/HOTELS
WADE RAIN DE MEXICO, S. DE R.L. DE C.V.	MEXICO	SERVICES
N/A	MOLDOVA	SERVICES
THE ASIA FOUNDATION	MONGOLIA	SERVICES
THE ASIA FOUNDATION	MONGOLIA	SERVICES
N/A	MOROCCO	SERVICES
N/A	MOZAMBIQUE	SERVICES
INTERNATIONAL RESCUE COMMITTEE	NEPAL	SERVICES
THE ASIA FOUNDATION	NEPAL	SERVICES
THE ASIA FOUNDATION SOUTHERN COASTAL PROPERTIES NICARAGUA, S.A., C/O	NEPAL	SERVICES
FERNANDO  MKJ EXPLORACIONES INTERNACIONALES, S.A.	NICARAGUA NICARAGUA	CONSTRUCTION ENERGY - OIL AND GAS
MKJ EXPLORACIONES INTERNACIONALES, S.A.	NICARAGUA	ENERGY - OIL AND GAS ENERGY - OIL AND
MKJ EXPLORACIONES INTERNACIONALES, S.A.	NICARAGUA	GAS



Project Name Insurance	Country	Sector
		ENERGY - OIL AND
MKJ EXPLORACIONES INTERNACIONALES, S.A.	NICARAGUA	GAS ENERGY - OIL AND
MKJ EXPLORACIONES INTERNACIONALES, S.A.	NICARAGUA	GAS
N/A	NICARAGUA	ENERGY - OIL AND GAS
N/A	NICARAGUA	ENERGY - OIL AND
N/A	NICARAGUA	GAS
N/A	NICARAGUA	ENERGY - OIL AND GAS
	1,20,2010	ENERGY - OIL AND
N/A	NICARAGUA	GAS ENERGY - OIL AND
N/A	NICARAGUA	GAS
DAVIGO DE ODERNES OFINEDO AMERICANIO O	3776 ( D ( 677)	FINANCIAL
BANCO DE CREDITO CENTROAMERICANO, S.A.	NICARAGUA	SERVICES FINANCIAL
FONDO NICARAGUENSE PARA EL DESARROLLO COMUNITARIO	NICARAGUA	SERVICES
COLITE NICARAGUA S.A.	NICARAGUA	SERVICES
N/A	NICARAGUA	SERVICES
AES NIGERIA BARGE LIMITED	NIGERIA	<b>ENERGY - POWER</b>
CONTOURGLOBAL SOLUTIONS (NIGERIA) LTD.	NIGERIA	<b>ENERGY - POWER</b>
CONTOURGLOBAL SOLUTIONS (NIGERIA) LTD.	NIGERIA	<b>ENERGY - POWER</b>
COCA-COLA NIGERIA LIMITED	NIGERIA	MANUFACTURING
AMERICAN INTERNATIONAL SCHOOL OF ABUJA	NIGERIA	SERVICES
AMERICAN INTERNATIONAL SCHOOL OF ABUJA	NIGERIA	SERVICES
N/A	NIGERIA	SERVICES
HABIBULLAH COASTAL POWER (PRIVATE) COMPANY PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY	PAKISTAN	ENERGY - POWER
("WAPDA") PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY	PAKISTAN	MANUFACTURING
("WAPDA")	PAKISTAN	MANUFACTURING
DIRECTORATE GENERAL PROCUREMENT	PAKISTAN	SERVICES
INTERNATIONAL RESCUE COMMITTEE - PAKISTAN	PAKISTAN	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	PAKISTAN	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	PAKISTAN	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	PAKISTAN	SERVICES
SWEETWATER PAKISTAN (PRIVATE) LTD.	PAKISTAN	SERVICES
THE ASIA FOUNDATION	PAKISTAN	SERVICES
THE ASIA FOUNDATION	PAKISTAN	SERVICES



Project Name	Country	Sector
Insurance		
COLITE PANAMA, S.A.	PANAMA	SERVICES
N/A	PARAGUAY	SERVICES FINANCIAL
FINANCIERA TFC, S.A.	PERU	SERVICES
GLOBOKAS PERU S.A.C.	PERU	MANUFACTURING
GLOBOKAS PERU S.A.C.	PERU	MANUFACTURING
N/A	PERU	SERVICES
TOTAL ARTEFACTOS S.A.	PERU	SERVICES
CE CASECNAN WATER AND ENERGY COMPANY, INC.	PHILIPPINES	ENERGY - POWER
CE CASECNAN WATER AND ENERGY COMPANY, INC.	PHILIPPINES	ENERGY - POWER
NATIONAL POWER CORPORATION ("NAPOCOR")	PHILIPPINES	ENERGY - POWER
MIDAMERICAN ENERGY HOLDINGS CO	PHILIPPINES	ENERGY - POWER FINANCIAL
SEEDFINANCE CORPORATION	PHILIPPINES	SERVICES
N/A	PHILIPPINES	SERVICES
THE ASIA FOUNDATION	PHILIPPINES	SERVICES
THE ASIA FOUNDATION	PHILIPPINES	SERVICES
ASIA FOUNDATION	RISK	SERVICES
INTERNATIONAL RESCUE COMMITTEE	RISK	SERVICES
S.C. EMPIRE TOWER S.R.L.	ROMANIA	CONSTRUCTION
OPEN JOINT STOCK COMPANY TERMINAL	RUSSIA	CONSTRUCTION FINANCIAL
OOO MORGAN STANLEY BANK	RUSSIA	SERVICES
INSTRUM-RAND	RUSSIA	MANUFACTURING
INSTRUM-RAND	RUSSIA	MANUFACTURING
ZAO "ISP OPTICS, SAINT-PETERSBURG"	RUSSIA	MANUFACTURING
INTERNATIONAL RESCUE COMMITTEE, INC.	RUSSIA	SERVICES
MINISTRY OF HEALTH OF SAMARA OBLAST	RUSSIA	SERVICES
SAMARA OBLAST	RUSSIA	SERVICES
SORWATHE S.A.R.L.	RWANDA	MANUFACTURING
INTERNATIONAL RESCUE COMMITTEE, INC.	RWANDA	SERVICES
MINISTRY OF INTERIOR AFFAIRS OF THE REPUBLIC OF SERBIA	SERBIA	COMMUNICATION
INTERNATIONAL RESCUE COMMITTEE, INC BRANCH OFFICES	SIERRA LEONE	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	SOMALIA	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	SOMALIA	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	SOMALIA	SERVICES



Project Name	Country	Sector
Insurance		
GRANTON SAFARIS CC	SOUTH AFRICA	AGRICULTURE
N/A	SOUTH AFRICA	SERVICES
MATH HYDRO POWER (PVT) LIMITED	SRI LANKA	ENERGY - POWER
RELIEF INTERNATIONAL BRANCH OFFICES	SRI LANKA	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICES	SRI LANKA	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICES	SRI LANKA	SERVICES
THE ASIA FOUNDATION	SRI LANKA	SERVICES
THE ASIA FOUNDATION	SRI LANKA	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	TAJIKISTAN	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE	TAJIKISTAN	SERVICES
RELIEF INTERNATIONAL BRANCH OFFICE ENTERPRISE HOMES TANZANIA LIMITED, CARE OF ISHENGOMA,	TAJIKISTAN	SERVICES
MASHA ENTERPRISE HOMES TANZANIA LIMITED, CARE OF ISHENGOMA,	TANZANIA	CONSTRUCTION
MASHA	TANZANIA	CONSTRUCTION
MUTUAL VENTURES LIMITED	TANZANIA	CONSTRUCTION
INTERNATIONAL RESCUE COMMITTEE, INC. BRANCH OFFICES	TANZANIA	SERVICES
N/A	TANZANIA	SERVICES
IRC BRANCH OFFICE	THAILAND	SERVICES
THE ASIA FOUNDATION BRANCH OFFICES	THAILAND	SERVICES
THE ASIA FOUNDATION BRANCH OFFICES	THAILAND	SERVICES ENERGY - OIL AND
WEST AFRICAN GAS PIPELINE COMPANY LIMITED	TOGO	GAS
CONTOURGLOBAL TOGO S.A. AMERICAN COOPERATIVE SCHOOL OF TUNIS (ACST)	TOGO	ENERGY - POWER
ASSOCIATION	TUNISIA	SERVICES
THE AMERICAN COOPERATIVE SCHOOL OF TUNISIA	TUNISIA	SERVICES
THE AMERICAN COOPERATIVE SCHOOL OF TUNISIA	TUNISIA	SERVICES
GENERAL DIRECTORATE OF HIGHWAYS	TURKEY	CONSTRUCTION
DOGA ENERJI URETIM SANAYI VE TICARET L.S.	TURKEY	ENERGY - POWER FINANCIAL
ASYA KATILIM BANKASI A.S.	TURKEY	SERVICES
M/N BUTLER MIMARLAR ARASTIRMA TASARI VE YAPI LTD. STI.	TURKEY	TOURISM/HOTELS
M/N BUTLER MIMARLAR ARASTIRMA TASARI VE YAPI LTD. STI.	TURKEY	TOURISM/HOTELS
M/N BUTLER MIMARLAR ARASTIRMA TASARI VE YAPI LTD. STI.	TURKEY	TOURISM/HOTELS



Project Name	Country	Sector
Insurance		
CAICOS TELEVISION HOLDINGS LTD.	TURKEY & CAICOS ISLANDS	COMMUNICATION
INTERNATIONAL RESCUE COMMITTEE, INC BRANCH OFFICES	UGANDA	SERVICES
A. STUCKI - RAIL	UKRAINE	MANUFACTURING
A. STUCKI - RAIL	UKRAINE	MANUFACTURING
A. STUCKI RAIL	UKRAINE	MANUFACTURING
A. STUCKI RAIL	UKRAINE	MANUFACTURING
N/A	UKRAINE	SERVICES
UNIVERSAL STAR CO.	UKRAINE	SERVICES
EL SALADERO, UY SRL	URUGUAY	AGRICULTURE
TASHKENT INTERNATIONAL SCHOOL	UZBEKISTAN	SERVICES
KHIVA MALIKASI, LLC	UZBEKISTAN	TOURISM/HOTELS
KHIVA MALIKASI, LLC	UZBEKISTAN	TOURISM/HOTELS
MALIKA BARIKHASI, LLC/MALIKA HOTEL BUKHARA	UZBEKISTAN	TOURISM/HOTELS
CONSOLIDADA DE FERRYS C.A. (CONFERRY)	VENEZUELA	TRANSPORTATIO
CONSOLIDADA DE FERRYS C.A. (CONFERRY)	VENEZUELA	TRANSPORTATIO
CONSOLIDADA DE FERRYS, C. A. (CONFERRY)	VENEZUELA	TRANSPORTATIO
VIETNAMNET MEDIA JOINT STOCK COMPANY KIDWELL INTERNATIONAL POWER VIETNAM COMPANY	VIETNAM	COMMUNICATION
LIMITED	VIETNAM	ENERGY - POWER
N/A	VIETNAM	SERVICES
GAZA POWER GENERATING PRIVATE LIMITED COMPANY	WEST BANK & GAZA	ENERGY - POWER
GAZA POWER GENERATING PRIVATE LIMITED COMPANY	WEST BANK & GAZA	ENERGY - POWER
N/A	WEST BANK & GAZA	SERVICES
RELIEF INTERNATIONAL HEBRON CENTER OF EXCELLENCE	WEST BANK & GAZA	SERVICES
RELIEF INTERNATIONAL HEBRON CENTER OF EXCELLENCE	WEST BANK & GAZA	SERVICES
RELIEF INTERNATIONAL HEBRON CENTER OF EXCELLENCE	WEST BANK & GAZA	SERVICES
NATIONAL MILLING COMPANY LIMITED	ZAMBIA	MANUFACTURING
HILL ESTATES LIMITED, P.O. BOX 31617	ZAMBIA	SERVICES
HILL ESTATES LIMITED, P.O. BOX 31617	ZAMBIA	SERVICES
N/A	ZAMBIA	SERVICES
MERODENT ZIMBABWE (PVT.) LTD.	ZIMBABWE	MANUFACTURING



Project Name	Country	Sector
Insurance		
MERODENT ZIMBABWE (PVT.) LTD.	ZIMBABWE	MANUFACTURING
MERODENT ZIMBABWE (PVT.) LTD.	ZIMBABWE	MANUFACTURING
MERODENT ZIMBABWE (PVT.) LTD.	ZIMBABWE	MANUFACTURING



Project Name	Country	Sector
FUNDS	T I THE LIVE THE LAND TO LAND	
ACF INVESTMENTS B, LTD	LATIN AMERICA REGIONAL	FIN
ACF INVESTMENTS, LTD	LATIN AMERICA REGIONAL	FIN
ACF INVESTORS, LTD.	LATIN AMERICA REGIONAL	FIN
ACTIS SOUTH ASIA FUND 2, L.P.	ASIA REGIONAL	FIN
AFRICA TELECOM, MEDIA & TECHNOLOGY FUND LLC	AFRICA REGIONAL	FIN
ALSIS LATIN AMERICA FUND, L.P.	LATIN AMERICA REGIONAL	FIN
AQUA PARTNERS LP	ALL OPIC COUNTRIES	FIN
ASIA DEVELOPMENT PARTNERS II, L.P.	ASIA REGIONAL	FIN
ASIA DEVELOPMENT PARTNERS, L.P.	ASIA REGIONAL	FIN
BANCROFT EASTERN EUROPE FUND LP	EUROPE REGIONAL	FIN
CAPITAL ALLIANCE PROPERTY INVESTMENT CO., LP	NIGERIA	FIN
CLEARWATER CAPITAL PARTNERS INVESTMENTSII LP	ASIA REGIONAL	FIN
DARBY LATIN AMERICAN HOLDINGS, L.P.	LATIN AMERICA REGIONAL	FIN
DARBY PROBANCO II FUND	LATIN AMERICA REGIONAL	FIN
DRAPER INTERNATIONAL INDIA FUND	INDIA	FIN
ECP AFRICA FIII INVESTMENT LLC	AFRICA REGIONAL	FIN
ECP AFRICA FUND II INVESTMENTS LLC	AFRICA REGIONAL	FIN
ECP MENA GROWTH INVESTMENTS, LLC	MIDDLE EAST REGIONAL	FIN
ETHOS PRIVATE EQUITY FUND V	AFRICA REGIONAL	FIN
EUROMENA FUND II, L.P.	MIDDLE EAST REGIONAL	FIN
ONDO ALSIS MEXICO DE VIVIENDA DE INTERES SO	LATIN AMERICA REGIONAL	FIN
FOURSAN CAPITAL PARTNERS I	JORDAN	FIN
GLOBAL ENVIRONMENT EMERGING MARKET FUND	ALL OPIC COUNTRIES	FIN
GLOBAL ENVIRONMENT EMERGING MARKETS FUND, II	ALL OPIC COUNTRIES	FIN
GREYLOCK AFRICA OPPORTUNITY FUND I	AFRICA REGIONAL	FIN
HELIOS SUB-SAHARAN AFRICA FUND I, L.P.	AFRICA REGIONAL	FIN
NDIA PRIVATE EQUITY FUND	INDIA	FIN
SRAEL GROWTH FUND	ISRAEL	FIN
LATIN POWER TRUST III, L.P.	LATIN AMERICA REGIONAL	FIN
MILLENNIUM GLOBAL AFRICA OPPORTUNITIES FUND	AFRICA REGIONAL	FIN
MODERN AFRICA GROWTH AND INVESTMENT COMPANY	AFRICA REGIONAL	FIN
MODERN AFRICA GROWTH AND INVESTMENT FUND 2	AFRICA REGIONAL	FIN
NEW CENTURY CAPITAL PARTNERS, L.P.	NIS REGIONAL	FIN
NEW CENTURY CAPITAL PARTNERS, L.P.	EUROPE REGIONAL	FIN
PALADIN REALTY EURASIA INVESTORS, L.P.	TURKEY	FIN
PALADIN REALTY LATIN AMERICA INVESTORS II,LP	LATIN AMERICA REGIONAL	FIN
PALADIN REALTY LATIN AMERICA INVESTORS III	LATIN AMERICA REGIONAL	FIN
RUSSIA PARTNERS COMPANY, L.P.	NIS REGIONAL	FIN
RUSSIA PARTNERS COMPANY, L.P.	NIS REGIONAL	FIN
RUSSIA PARTNERS II "O" SERIES, L.P.	NIS REGIONAL	FIN



SAWHF PVE (SA)	SOUTH AFRICA	FIN
SOUTH AMERICA PRIVATE EQUITY GROWTH FUND, LP	LATIN AMERICA REGIONAL	FIN
SOUTHEAST EUROPE EQUITY FUND II, L.P.	EUROPE REGIONAL	FIN
THE GREAT CIRCLE FUND L.P. (MISF)	ALL OPIC COUNTRIES	FIN
VIRGIN GREEN FUND GLOBAL I, L.P.	ALL OPIC COUNTRIES	FIN



Table A-2: Initial Short List

Project Name FINANCE- New Project 2008	Country	Sector
The tropostation		*
TIVANNAH GLOBAL LDA	ANGOLA	MFR
JSC IBERIA REAL ESTATE	GEORGIA	CONS
SLID INDUSTRIES, LTD.	GHANA	MFR
CEMA ELECTRIC LIGHTING PRODUCTS INDIA PVT LT	INDIA	MFR
AZURE POWER PUNJAB PRIVATE LIMITED	INDIA	POWER
HUSK POWER SYSTEMS, INC.	INDIA	POWER
EPISCOPAL CHURCH OF JERUSALEM & THE MIDDLE E	ISRAEL	CONS
RLJ LIBERIA, LLC	LIBERIA	CONS
BUCHANAN RENEWABLES FUEL INC.	LIBERIA	MFR
BUCHANAN RENEWABLES (MONROVIA) POWER INC.	LIBERIA	POWER
IKH TOKHOIROL XXK	MONGOLIA	MINE
AMTECH SP.ZO.O	POLAND	CONS
DT METAL GERI KAZANIM TEKNOLOJILERI SANAYI	TURKEY	MFR
WBC-FERSAN FERMANTASYON URUN SAN, VE TIC.A.S	TURKEY	MFR
WBC-KAYNAK SULARI VE TURIZM A.S.	TURKEY	MFR
O&S CONSULTING, L.L.C.	UZBEKISTAN	CONS
FINANCE- Included in 2007 Inventory		
NEPC CONSORTIUM POWER LTD.(HARIPUR)	BANGLADESH	POWER
PAITON ENERGY COMPANY	INDONESIA	POWER
AES JORDAN PSC	JORDAN	POWER
NGL FUNDING LIMITED	NIGERIA	OIL
E.P. INTEROIL, LTD.	PAPUA NEW GUINEA	MFR
ADAPAZARI ELEKTRIK URETIM LTD. SIRKETI	TURKEY	POWER
DOGA ENERJI	TURKEY	POWER
GEBZE ELEKTRIK URETIM LTD SIRKETI	TURKEY	POWER
IZMIR ELEKTRIK URETIM LTD SIRKETI	TURKEY	POWER
ACCROVEN SRL	VENEZUELA	OIL
WILPRO ENERGY SERVICES (EL FURRIAL) LIMITED	VENEZUELA	OIL
WILPRO ENERGY SERVICES (PIGAP II) LTD.	VENEZUELA	OIL

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<sup>\*</sup> Information has been Redacted in accordance with the two principled exceptions of the Foreign Aid Transparency and Accountability Act (FATAA) of 2016; including the health and security of implementing partners, as well as national interest of the United States.



Project Name	Country	Sector
Insurance- New Project 2008		
AMERICAN DREAM HOME, S.C.I.	GABON	CONSTRUCTION
CONTOURGLOBAL SOLUTIONS (NIGERIA) LTD.	NIGERIA	<b>ENERGY - POWER</b>
GLOBOKAS PERU S.A.C.	PERU	MANUFACTURING
Insurance- Included in 2007 Inventory		
THE BAKU-TBILISI-CEYHAN PIPELINE COMPANY	AZERBAIJAN	ENERGY - OIL AND GAS ENERGY - OIL AND
FOXTROT INTERNATIONAL LDC	COTE DIVOIRE	GAS ENERGY - OIL AND
VARIOUS APACHE EGYPT CONCESSION SUBSIDIARIES	EGYPT	GAS ENERGY - OIL AND
WEST AFRICAN GAS PIPELINE COMPANY LIMITED	GHANA	GAS
GRENADA ELECTRICITY SERVICES LIMITED	GRENADA	<b>ENERGY - POWER</b>
EQUATE PETROCHEMICAL COMPANY K.S.C. (CLOSED)	KUWAIT	MANUFACTURING
AES NIGERIA BARGE LIMITED	NIGERIA	<b>ENERGY - POWER</b>
HABIBULLAH COASTAL POWER (PRIVATE) COMPANY PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY	PAKISTAN	ENERGY - POWER
("WAPDA")	PAKISTAN	MANUFACTURING
DOGA ENERJI URETIM SANAYI VE TICARET L.S.	TURKEY	<b>ENERGY - POWER</b>
GAZA POWER GENERATING PRIVATE LIMITED COMPANY	WEST BANK & GAZA	ENERGY - POWER
Funds-Included in 2007 Inventory		
LATIN POWER TRUST III, L.P.	LATIN AMERICA REGIONAL	FIN



## APPENDIX B

This Appendix contains the inputs, sources of those inputs, and calculations utilized to estimate the maximum Potential to Emit (PTE) for each of the projects in OPIC's 2008 GHG Inventory. If sponsor feedback was submitted, the 2008 operational emissions estimate was also included.

# Tier A Projects - Based on Sponsor Provided Throughput

## AES Nigeria Barge (A1)

#### Maximum Potential to Emit Estimate

AES Nigeria Barge's emissions estimate of 1,603,307 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	270 MW	Project Description
Consumption	80 Mcf/day	Project Description
Heat Content Natural Gas	1,029 Btu/scf	The Climate Registry, Table 12.1
Emission Factor	53.06kg CO2/MMBtu	The Climate Registry, Table 12.1

Consumption based maximum potential to emit = 1,603,307 short tons CO2 per year

### 2007 Operational Estimate Based On Sponsor Feedback

AES Nigeria Barge's 2007 operational emissions of 1,166,398 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	270 MW	Project Description
Consumption	58.165 Mcf/day	Project Sponsor
<b>Emission Factor</b>	53.06kg CO2/MMBtu	The Climate Registry, Table 12.1

Consumption based emissions = 1,166,398 short tons CO2 per year



#### 2008 Operational Estimate Based On Sponsor Feedback

AES Nigeria Barge's 2008 operational emissions of 1,341,157 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	270 MW	Project Description
Consumption	66.92 Mcf/day	Project Sponsor
Emission Factor	53.06kg CO2/MMBtu	The Climate Registry, Table 12.1

Consumption based emissions = 1,341,157 short tons CO2 per year

# AES Jordan (A3)

### Maximum Potential to Emit Estimate

AES Jordan's emissions estimate of 1,288,809 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	370 MW	Project Description
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based maximum potential to emit = 1,288,809 short tons CO2 per year

#### 2007 Operational Estimate Based On Sponsor Feedback

AES Jordan was under construction and not operational during 2007. Since emissions from construction would be below the 100,000 short ton threshold this project is omitted from the 2007 inventory.

### 2008 Operational Estimate Based On Sponsor Feedback

AES Jordan's emissions estimate for 2008 of 590,940 short tons CO2 was calculated using the following information.



Data	Value	Source
Fuel Type	Natural Gas	Project Sponsor
Net Energy Generated	10,103,603 MMBtu	Project Sponsor
Emission Factor	53.06 kg CO2/MMBtu	TCR, Table 12.1

Capacity based maximum potential to emit = 590,940 short tons CO2 per year

## Doga Enerji (A4)

### Maximum Potential to Emit Estimate

Doga Enerji's emissions estimate of 816,057 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	180 MW	Project Description
Consumption	48,000 m3/hour	Project Description
Heat Content Natural Gas 1,029 Btu/scf		The Climate Registry, Table 12.1
Emission Factor	53.06kg CO2/MMBtu	The Climate Registry, Table 12.1
Conversion Factor	251.98 cal/Btu	Perry's Chemical Engineering Hand Book, Table 1-7

Consumption based maximum potential to emit = 816,057 short tons CO2 per year

48000m3	* 8000hr	* scf	* 1029Btu	* MMBtu	* 53.06 kgCO2	* <u>0.0011023 short</u>
tons						
hr	VI	0.02832m3	scf	1000000Btu	MMBtu	kg

## 2007 Operational Estimate Based On Sponsor Feedback

Doga Enerji's 2007 operational emissions of **740,756 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	180 MW	Project Description
Annual Fuel Consumption	347,644,124 Sm3	Project Actual Data 2007
Heat Content Natural Gas	9180 kcal/Sm3	Agreement with local Natural Gas supplier (BOTAS)
Emission Factor	53.06kg CO2/MMBtu	The Climate Registry, Table 12.1

Consumption based emissions = 740,756 short tons CO2 per year



347644124 Sm3 \* 9180 kcal \* 1 Btu \* 1000 cal \* MMBtu \* 53.06 kgCO2 \* 0.0011023 short tons yr Sm3 951.98 cal kcal 1000000Btu MMBtu kg

#### 2008 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, emissions and operational factors have not changed.

# Jorf Lasfar Energy (A10)

#### Maximum Potential to Emit Estimate

Jorf Lasfar Energy's emissions estimate of 14,268,496 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Coal	Project Description
Capacity	1,356 MW	Project Description
Consumption	630,000 kg/hr	Additional Project Description Details from OPIC
Coal Type	Bituminous	IEA, Coal in Morocco in 2006
Heat Content Coal	24.93 MMBtu/short ton	The Climate Registry, Table 12.1
<b>Emission Factor</b>	93.46 kg CO2/MMBtu	The Climate Registry, Table 12.1

Consumption based maximum potential to emit = 14,268,496 short tons CO2 per year

630,000kg \* 8000hr \* 0.0011023short tons \* 24.93MMBtu \* 93.46kgCO2 \* 0.0011023short tons hr yr kg short ton MMBtu kg

#### 2007 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, there are no changes to the maximum potential to emit estimate.

#### 2008 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, emissions and operational factors have not changed.

# Paiton Energy (A13)

#### Maximum Potential to Emit Estimate

Paiton Energy's emissions estimate of 7,938,380 short tons CO2 was calculated using the following information.



Data	Value	Source
Fuel Type	Coal	Project Description
Capacity	1,200 MW	Project Description
Consumption	4,300,000 short tons/yr	Project Description
Coal Type	Sub-Bituminous	IEA, Coal in Indonesia in 2006
Heat Content Coal	17.25 MMBtu/short ton	The Climate Registry, Table 12.1
<b>Emission Factor</b>	97.09 kg CO2/MMBtu	The Climate Registry, Table 12.1

Consumption based maximum potential to emit = 7,938,380 short tons CO2 per year

4,300,000 short tons \* 17.25 MMBtu \* 97.09 kgCO2 \* 0.0011023 short tons yr short ton MMBtu kg

#### 2007 Operational Estimate Based On Sponsor Feedback

Paiton Energy's 2007 operational emissions of 9,553,044 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Coal	Project Description
Capacity	1,200 MW	Project Description
Consumption	4,694,238,000 kg	Project Sponsor
Coal Type	Sub-Bituminous	IEA, Coal in Indonesia in 2006
Heat Content Coal	17.25 MMBtu/short ton	The Climate Registry, Table 12.1
<b>Emission Factor</b>	97.09 kg CO2/MMBtu	The Climate Registry, Table 12.1

Consumption based emissions = 9,553,044 short tons CO2 per year

4,694,238,000 kg \*<u>short ton</u> \* <u>17.25 MMBtu</u> \* <u>97.09 kg CO2</u> \*<u>short ton</u> . 907.18 kg short ton MMBtu 907.18 kg

## 2008 Operational Estimate Based On Sponsor Feedback

Sponsor provided data but was for 2010 and not 2008. As a result, 2008 defaults to 2007 data.

# Trakya Elektrik Uretim ve Ticaret (A15)

#### Maximum Potential to Emit Estimate

Trakya Elektrik Uretim ve Ticaret's emissions estimate of 1,818,912 short tons CO2 was calculated using the following information.



Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	478MW	Project Description
Consumption	20 kg/s	Project Description
Density of Natural Gas 23.8 scf per lb		EPA AP 42, p.A-7
		The Climate Registry, Table 12.1
Emission Factor	53.06kg CO2/MMBtu	The Climate Registry, Table 12.1

Consumption based maximum potential to emit = 1,818,912 short tons CO2 per year

#### 2007 Operational Estimate Based On Sponsor Feedback

Trakya Elektrik Uretim ve Ticaret's 2007 operational emissions of 1,747,956 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	478MW	Project Sponsor
Consumption	568,912,217 kg	Project Sponsor
Density of Natural Gas	20.8 scf per lb	Project Sponsor
Heat Content Natural Gas	1,120 Btu/scf (HHV)	Project Sponsor
Emission Factor	54.18 kg CO2/MMBtu	Project Sponsor
2007 Operating Emissions	1,585,746 metric tonnes	Project Sponsor

Consumption based emissions = 1,747,956 short tons CO2 per year

#### 2008 Operational Estimate Based On Sponsor Feedback

Trakya Elektrik Uretim ve Ticaret's 2008 operational emissions of 1,484,377 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	478MW	Project Sponsor
Consumption	483,181,877 kg	Project Sponsor
Density of Natural Gas	20.8 scf per lb	Project Sponsor
Heat Content Natural Gas	1,120 Btu/scf (HHV)	Project Sponsor
Emission Factor	54.18 kg CO2/MMBtu	Project Sponsor
2008 Operating Emissions	1,346,627 metric tonnes	Project Sponsor

Consumption based emissions = 1,484,377 short tons CO2 per year



1,346,627 metric tonnes*	short tons .
	0.9072 metric tonnes



# Tier A Projects – Based on Capacity (Throughput not Available)

## Adapazari Elektrik Uretim (A2)

#### Maximum Potential to Emit Estimate

Adapazari Elektrik Uretim's emissions estimate of 2,706,499 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	777 MW	Project Description
Emission Factor for Emissions Estimate from Capacity	395 g CO2/kWh	International Finance Corporation, Guidance Note 3, Annex A section A-(i)

Capacity based maximum potential to emit = 2,706,499 short tons CO2 per year

### 2007 Operational Estimate Based On Sponsor Feedback

Adapazari Elektrik Uretim's 2007 operational emissions of 2,106,754 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	777 MW	Project Description
2008 Emissions	1,911,247.2 metric tonnes	Project Sponsor

For the purpose of this baseline calculation, we are assuming 2007 operating year was similar to the 2008 operating year for which emissions were provided; therefore 2007 operational emissions = 2,106,754 short tons CO2 per year

#### 2008 Operational Estimate Based On Sponsor Feedback

Sponsor feedback provided last year for 2007 also was applicable for 2008. As a result, there is no change.

# Habibullah Coastal Power (A5)

Maximum Potential to Emit Estimate



Habibullah Coastal Power's emissions estimate of 487,658 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	140 MW	Project Description
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based maximum potential to emit = 487,658 short tons CO2 per year

#### 2007 Operational Estimate Based On Sponsor Feedback

Habibullah Coastal Power's 2007 operational emissions of **447,880 short tons CO2** was calculated using the following information.

Data	Value	Source
Emissions from CH4	406,311.5 metric tonnes	Project Sponsor
Emissions from High Speed Diesel	5.7 metric tonnes	Project Sponsor
2007 Emissions	406,317 metric tonnes	Project Sponsor

For the purpose of this baseline calculation, we are assuming 2007 operating year was similar to the 2007 fiscal year for which emissions were provided; therefore 2007 operational emissions = 447,880 short tons CO2 per year.

### 2008 Operational Estimate Based On Sponsor Feedback

Per Sponsor Feedback, emissions and operational factors did not change from 2007.

#### Gebze Elektrik Uretim (A6)

#### Maximum Potential to Emit Estimate

Gebze Elektrik Uretim's emissions estimate of **5,412,998 short tons CO2** was calculated using the following information.



Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	1554 MW	Project Description
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based maximum potential to emit = 5,412,998 short tons CO2 per year

#### 2007 Operational Estimate Based On Sponsor Feedback

Gebze Elektrik Uretim's 2007 operational emissions of **4,121,923 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	1554 MW	Project Description
2008 Emissions	3,739,408.4 metric tonnes	Project Sponsor

For the purpose of this baseline calculation, we are assuming 2007 operating year was similar to the 2008 operating year for which emissions were provided; therefore 2007 operational emissions = 4,121,923 short tons CO2 per year

#### 2008 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, emissions and operational factors for 2008 are the same as 2007.

# Pakistan Water & Power Development Authority (A7)

### Maximum Potential to Emit Estimate

Pakistan Water & Power Development Authority's emissions estimate of **522,490 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	150 MW	Project Description
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)



Capacity based maximum potential to emit = 522,490 short tons CO2 per year

$$\frac{150 MW * \frac{1000 kW}{MW} * \frac{8000 hr}{yr} * \frac{395 gCO2}{kWh} * \frac{0.0000011023 \text{ short tons}}{g}}{kWh}$$

#### 2007 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, there are no changes to the maximum potential to emit estimate.

#### 2008 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, emissions and operational factors have not changed.

## Isagen SA (A8)

#### Maximum Potential to Emit Estimate

Isagen SA's emissions estimate of 696,654 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	200 MW + 100MW from steam turbine	Project Description
Emission Factor for Emissions Estimate from Capacity	395 g CO2/kWh	International Finance Corporation, Guidance Note 3, Annex A section A-(i)

Capacity based maximum potential to emit = 696,654 short tons CO2 per year

$$\frac{200 MW * \frac{1000 kW}{MW} * \frac{8000 hr}{yr} * \frac{395 gCO2}{kWh} * \frac{0.0000011023 \text{ short tons}}{g}}{kWh}$$

#### 2007 Operational Estimate Based On Sponsor Feedback

Isagen SA's 2007 operational emissions of **203,010 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	300 MW	Project Description
2007 Emissions	184,171 metric tonnes	Project Sponsor

Capacity based emissions = 203,010 short tons CO2 per year

2008 Operational Estimate Based On Sponsor Feedback



Need to calculate and add in here.

## Izmir Elektrik Uretim (A9)

#### Maximum Potential to Emit Estimate

Izmir Elektrik Uretim's emissions estimate of **5,412,998 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	1554 MW	Project Description
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based maximum potential to emit = 5,412,998 short tons CO2 per year

#### 2007 Operational Estimate Based On Sponsor Feedback

Izmir Elektrik Uretim's 2007 operational emissions of **4,694,380 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	1554 MW	Project Description
2008 Emissions	4,258,741.3 metric tonnes	Project Sponsor

For the purpose of this baseline calculation, we are assuming 2007 operating year was similar to the 2008 operating year for which emissions were provided; therefore 2007 operational emissions = 4,694,380 short tons CO2 per year

#### 2008 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, emissions and operational factors were the same for 2007 and 2008.

# Gaza Private Generating PLC (A11)

#### Maximum Potential to Emit Estimate

Gaza Private Generating PLC's emissions estimate of 487,657 short tons CO2 was calculated using the following information.



Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	140 MW	Project Description
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based maximum potential to emit = 487,657 short tons CO2 per year

## 2007 Operational Estimate Based On Sponsor Feedback

Gaza Private Generating PLC's 2007 operational emissions of 293,804 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	136.4 MW	Project Sponsor
2007 Emissions	266,539 metric tonnes	Project Sponsor

Capacity based emissions =	293,804 s	short tons	CO <sub>2</sub>	per year
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### 2008 Operational Estimate Based On Sponsor Feedback

Gaza Private Generating PLC's 2008 operational emissions of 303,535 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	136.4 MW	Project Sponsor
2008 Emissions	275,367 metric tonnes	Project Sponsor

Capacity based emissions = 303,535 short tons CO2 per year

275,367 metric tonnes *	short ton
	0.9072 metric tonnes

# NEPC Consortium Power (A12)

Maximum Potential to Emit Estimate



NEPC Consortium Power's emissions estimate of **383,159 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	110 MW	Project Description
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based maximum potential to emit = 383,159 short tons CO2 per year

$$\frac{110 MW * \frac{1000 kW}{MW} * \frac{8000 hr}{yr} * \frac{395 gCO2}{kWh} * \frac{0.0000011023 \text{ short tons}}{g}}{kWh}$$

### 2007 Operational Estimate Based On Sponsor Feedback

NEPC Consortium Power's 2007 operational emissions of **245,795 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	110 MW with average dispatch of 70.565 MW	Project Sponsor
2007 Emissions	222,985 metric tonnes	Project Sponsor

Capacity based emissions = 245,795 short tons CO2 per year

#### 2008 Operational Estimate Based On Sponsor Feedback

NEPC Consortium Power's 2008 operating emissions of **343,581 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas & HFO	Project Sponsor
Heat Content (HFO)	363,184 MMBtu / yr	Project Sponsor
Heat Content (NatGas)	5,335,005 MMBtu / yr	Project Sponsor

Capacity based emissions = 343,581 short tons CO2 per year



# Termovalle SCA (A14)

#### Maximum Potential to Emit Estimate

Termovalle SCA's emissions estimate of 714,070 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	205 MW	Project Description
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based maximum potential to emit = 714,070 short tons CO2 per year

# 2007 Operational Estimate Based On Sponsor Feedback

Termovalle SCA's 2007 operating emissions of **16,226 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	205 MW	Project Description
2007 Operating Hours	181.79 hrs	Project Sponsor
Emission Factor for	395 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based emissions = 16,226 short tons CO2 per year

$$\frac{205 MW * \frac{1000 kW}{MW} * \frac{181.79 hr}{yr} * \frac{395 \text{ gCO2}}{kWh} * \frac{0.0000011023 \text{ short tons}}{g}}{}$$

## 2008 Operational Estimate Based On Sponsor Feedback

Termovalle SCA's 2008 operating emissions of **46,213 short tons CO2** was calculated using the following information.



Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	205 MW	Project Description
2008 Operating Hours	517.74 hrs	Project Sponsor
Emission Factor for	395 g CO2/kWh	International Finance
Emissions Estimate from Capacity		Corporation, Guidance Note 3, Annex A section A-(i)

Capacity based emissions = 46,213 short tons CO2 per year

# Grenada Electricity Services (WRB) (A16)

### Maximum Potential to Emit Estimate

Grenada Electricity Services (WRB)'s emissions estimate of **104,604 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Diesel (Fuel Oil)	Project Description
Capacity	18 MW	Project Description
Emission Factor for	659 g CO2/kWh	International Finance
<b>Emissions Estimate from</b>		Corporation, Guidance Note 3,
Capacity		Annex A section A-(i)

Capacity based maximum potential to emit = 104,604 short tons CO2 per year

### 2007 Operational Estimate Based On Sponsor Feedback

Grenada Electricity Services (WRB)'s 2007 operational emissions of **114,571 short tons CO2** was calculated using the following information.



Data	Value	Source
Fuel Type	Diesel (Fuel Oil)	Project Description
Fuel Consumption	10,821,042 gallons	Project Sponsor
Heat Rate	8013 Btu/kWh	Project Sponsor
Diesel LHV	70302 Btu/kg	Project Sponsor
Energy Generated	117,323,661 kWh	Project Sponsor
Emissions Factor	73.15 kg CO2/MMBtu	The Climate Registry, Table 12-1
2007 Emissions	114,571 short tons	Project Sponsor

Capacity based emissions = 114,571 short tons CO2 per year

# 2008 Operational Estimate Based On Sponsor Feedback

Grenada Electricity Services (WRB)'s 2008 operational emissions of 121,156 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Diesel (Fuel Oil)	Project Description
Fuel Consumption	11,436,588 gallons	Project Sponsor
Heat Rate	8006 Btu/kWh	Project Sponsor
Diesel LHV	40306 Btu/kg	Project Sponsor
Energy Generated	187,689,464 kWh	Project Sponsor
Emissions Factor	73.15 kg CO2/MMBtu	The Climate Registry, Table 12-1
2008 Emissions	121,156 short tons	Project Sponsor

Capacity based emissions = 121,156 short tons CO2 per year



# Tier B Projects

### Accroven SRL (B1)

#### Maximum Potential to Emit Estimate

Accroven SRL's emissions estimate of **998,677 short tons CO2** was calculated by utilizing a representative complete calculation of GHG emissions for a natural gas liquids (NGL) facility sourced from the American Petroleum Institute's (API) Compendium on GHG Emissions. The API example had a capacity of 800 MMscfd for annual emissions of 906,000 metric tonnes CO2; the same capacity as Accroven SRL. Below is the information used in the estimate.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	800 MMscfd	Project Description
"Emissions Factors"	906,000 metric tonnes CO2 per year for a facility with capacity of 800 MMscfd	API Compendium, Table 7-14
Multiplication Factor	1	Factor applied to account for approximate size discrepancy between Accroven and example

Maximum potential to emit = 998,677 short tons CO2 per year

#### 2007 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, there are no changes to the maximum potential to emit estimate.

#### 2008 Operational Estimate Based On Sponsor Feedback

Accroven SRL's 2008 operational emissions of 445,832 short tons CO2 was calculated using the following information.

Data	Value	Source	
2008 Emissions	404,458 Metric tons CO2	Project Sponsor	

Capacity based emissions = 445,832 short tons CO2 per year

# Various Egypt Subsidiaries (Apache)(B2)

#### Maximum Potential to Emit Estimate

Various Egypt Subsidiaries (Apache)'s emissions estimate of **1,190,476 short tons CO2** was calculated by utilizing an example from API for a similar oil and gas extraction and processing facility. The API example produced 6100 barrels oil per day and 30 MMscf natural gas per day



for annual emissions of 108,000 metric tonnes CO2; approximately 1/10<sup>th</sup> the size of Various Egypt Subsidiaries (Apache). Below is the information used in the estimate.

Data	Value	Source
Fuel Type	Oil and Natural Gas	Project Description
Production Volumes	29,934,702 barrels oil per year 89,910 MMscf natural gas per year	Project Description
"Emissions Factors"	108,000 metric tonnes CO2 per year for a facility that produces 6100 barrels oil per day and 30 MMscf natural gas per day	API Compendium, Table 7-4
Multiplication Factor	10	Factor applied to account for approximate size discrepancy between Apache and example

Maximum	potential to	emit =	1,190,476	short tons	CO <sub>2</sub> per	year

### 2007 Operational Estimate Based On Sponsor Feedback

Various Egypt Subsidiaries (Apache)'s 2007 operational emissions of 1,505,247 short tons CO2 was calculated using the following information.

Data	Value	Source	
2007 Emissions	1,365,560 metric tonnes	Project Sponsor	

2007 Operational Emissions = 1,505,247 short tons CO2 per year

### 2008 Operational Estimate Based On Sponsor Feedback

Various Egypt Subsidiaries (Apache)'s 2008 operational emissions of **1,442,133 short tons CO2** was calculated using the following information.

Data	Value	Source	
2008 Emissions	1,442,133 metric tonnes	Project Sponsor	

2008 Operational Emissions = 1,442,133 short tons CO2 per year



# Baku-Tblisi-Ceyhan Pipeline (B3)

#### Maximum Potential to Emit Estimate

The Baku-Tblisi-Ceyhan Pipeline's emissions estimate of 699,034 short tons CO2 was calculated for emissions related to the combustion of natural gas and diesel in the transportation of crude oil through the pipeline. We assume that the 180 Btu per short ton of crude transport per mile energy requirement is evenly split between natural gas and diesel. Below is the information used in the estimate.

Data	Value	Source
Fuel Type used for Transport	Natural Gas and Diesel (dual fuel)	Project Description
Pipeline Throughput	1 million barrels crude oil	Project Description
Pipeline Length	1,760 km	Project Description
Conversion Factors	1.6093 km/mile 7.3 lbs/gal (density of crude)	EPA AP 42, p.A-7
Energy Required for Pipeline Transport (Crude)	180 Btu/short ton crude oil per mile (for ~40in. diameter pipeline)	Trans Alaska Pipeline EIS, p. 4.9-2
Emissions Factors	53.06 kg CO2/MMBtu (natural gas) 73.15 kg CO2/MMBtu (diesel)	The Climate Registry, Table 12.1

Maximum potential to emit = 699,034 short tons CO2 per year

$$\frac{1000000barrels}{day} * \frac{333day}{yr} * \frac{7.3lbs}{gal} * \frac{42gal}{barrel} * \frac{short ton}{2000lbs} = 51,048,900 short tons crude/yr$$

$$\frac{10049271 MMBtu}{yr} * \frac{73.15 \text{ kg CO2}}{MMBtu} * \frac{0.0011023 \text{ short tons}}{kg} * 0.5 = 405,153 \text{ short tons CO2/yr from diesel}$$

$$\frac{10049271 MMBtu}{yr} * \frac{53.06 \text{ kg CO2}}{MMBtu} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 0.5 = 293,881 \text{ short tonsCO2/yr from nat. gas}$$

#### 2007 Operational Estimate Based On Sponsor Feedback

The Baku-Tblisi-Ceyhan Pipeline's 2007 operational emissions of **707,672 short tons CO2** was calculated using the following information.

Data	Value	Source
2008 Emissions	642,000 metric tonnes	Project Sponsor



For the purpose of this baseline calculation, we are assuming 2007 operating year was similar to
the 2008 operating year for which emissions were provided; therefore 2007 operational
emissions = 707,672 short tons CO2 per year

642,000 metric tonnes *	short ton	
	0.9072 metric tonnes	

#### 2008 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, emissions and operational factors did not change from 2007 to 2008.

# E.P. Interoil (B4)

#### Maximum Potential to Emit Estimate

E.P. Interoil's emissions estimate of **802,469 short tons CO2** was calculated by utilizing an example from API for a refinery with a throughput of 250,000 barrels crude oil per day for annual emissions of 5,600,000 metric tonnes CO2. E.P. Interoil is approximately 13% the size of the example. Below is the information used in the estimate.

Data	Value	Source
Fuel Type	Crude Oil	Project Description
Throughput 32 Volumes	32,500 barrels crude oil per day	Project Description
"Emissions Factors"	5,600,000 metric tonnes CO2 per year for a facility with throughput of 250,000 barrels crude oil per day	API Compendium, Table 7-25
Multiplication Factor	0.13	Factor applied to account for approximate size discrepancy between E.P. Interoil and example

Maximum	potential t	o emit =	802,469	short	tons (	CO2 1	per y	rear

### 2007 Operational Estimate Based On Sponsor Feedback

E.P. Interoil's 2007 operational emissions of 392,296 short tons CO2 was calculated using the following information.

Data	Value	Source
2007 Average Throughput	15,888 BPCD	Project Sponsor
2007 Emissions	355,891 metric tonnes	Project Sponsor

2007 Operational	Emissions =	392,296	short to	ns CO2	per year
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355,891 metric tonnes \* short ton



#### 0.9072 metric tonnes

#### 2008 Operational Estimate Based On Sponsor Feedback

E.P. Interoil's 2008 operational emissions of 103,247 short tons CO2 was calculated using the following information.

Data	Value	Source
2008 Annual MMBtu	15,888 MMBtu	Project Sponsor
2008 Emissions	103,247 short tonnes	Project Sponsor

2008 Operational Emissions = 103,247 short tons CO2 per year

# Foxtrot International (B5)

#### Maximum Potential to Emit Estimate

Foxtrot International's emissions estimate of **270,804 short tons CO2** was calculated accounting for both combustion emissions from the compression and transmission of natural gas as well as fugitive emissions using the following information. Additionally, an estimate of platform emissions was provided in the project description and incorporated into the emissions total.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Pipeline Throughput	100 MMscfd	Project Description
Platform Emissions	142,000 short tons CO2e	Project Description
Emissions Factors	3439 lbs CO2 per MMscfd from combustion 4297 lbs CO2 per MMscfd from fugitive	U.S. EIA and EPA GHG Inventory, Tables 3-34 & 3-36

Maximum potential to emit = 270,804 short tons CO2 per year

$$\frac{100 \text{ MMscf}}{\text{day}} * \frac{333 \text{ day}}{\text{yr}} * \frac{4297 \text{ lbs CO2}}{\text{MMscf}} * \frac{\text{short ton}}{2000 \text{ lbs}} = 71,545 \text{ short tons CO2/yr (fugitive)}$$

142,000 short tons CO2/yr (platform)

2007 Operational Estimate Based On Sponsor Feedback



Foxtrot International's 2007 operational emissions of **104,484 short tons CO2** was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
2008 Consumption	1530 MMscf/yr from flaring, power generation, and re-boiler offshore; 206 MMscf/yr from onshore heaters	Project Sponsor
Emissions Factor	0.0546 kg CO2/scf	The Climate Registry, Table 12.1

For the purpose of this baseline calculation, we are assuming 2007 operating year was similar to the 2008 operating year for which emissions were provided; therefore 2007 operational emissions = 104,484 short tons CO2 per year

$$\frac{1736 \text{ MMsef}}{\text{yr}} * \frac{1000000 \text{ sef}}{\text{MMsef}} * \frac{0.0546 \text{ kg CO2}}{\text{sef}} * \frac{\text{short ton .}}{907.18 \text{ kg}}$$

#### 2008 Operational Estimate Based On Sponsor Feedback

Per Sponsor feedback, emissions and operational factors did not change from 2007 to 2008.

# Natural Gas Liquids II Financing (B6)

#### Maximum Potential to Emit Estimate

Natural Gas Liquids II Financing's emissions estimate of 390,806 short tons CO2 was calculated using gas consumption rates provided in the project description and the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Pipeline Throughput	19.5 MMscfd	Project Description
Heat Content Natural Gas	1029 Btu/scf	The Climate Registry, Table 12.1
Emissions Factors	53.06 kg CO2/MMBtu	The Climate Registry, Table 12.1

Maximum potential to emit = 390,806 short tons CO2 per year

#### 2007 Operational Estimate Based On Sponsor Feedback

Natural Gas Liquids II Financing's 2007 operational emissions of 244,048 short tons CO2 was calculated using the following information.



Data	Value	Source	
2007 Emissions	221,400 metric tonnes	Project Sponsor	

2007 Operational Emissions = 244,048 short tons CO2 per year

221,400 metric tonnes \* short ton . 0.9072 metric tonnes

2008 Operational Estimate Based On Sponsor Feedback

Received no Sponsor feedback so 2007 data is used as a default.

# Equate Petrochemical (B7)

#### Maximum Potential to Emit Estimate

Equate Petrochemical's emissions estimate of **720,573 short tons CO2** was based on a typical petrochemical facility in the Middle East with 850 MMBtu/hr natural gas equivalent power and 690 MMBtu/hr off gas equivalent power, total energy requirements of approximately 250 MW of natural gas fired power. These average specs were determined by Pace experts and referencing the April 2006 CEC/EPRI report. Below is the information used to perform the calculation.

Data	Value	Source
Fuel Type	Natural Gas	CEC, EPRI, p.4-6
Energy Requirements	850 MMBtu/hr (natural gas equivalent power) 690 MMBtu/hr (off gas equivalent power)	CEC, EPRI, p.4-6
Emissions Factors	53.06 kg CO2/MMBtu	The Climate Registry, Table 12.1

Maximum potential to emit = 720,573 short tons CO2 per year

850MMBtu + 690 MMBtu \* 8000hr \* 53.06 kg CO2 \* 0.0011023 short tons hr yr MMBtu kg

### 2007 Operational Estimate Based On Sponsor Feedback (received late)

Equate Petrochemical provided 2007 operational emission date after the 2007 report was complete. While the report reflected Pace's PTE estimate of 720,573 short tons CO2, 680,311 short tons CO2 is the more up to date value and was calculated using the following information.

Data	Value	Source	
2007 Emissions	617,178 metric tonnes	Project Sponsor	

2007 Operational Emissions = 680,311 short tons CO2 per year



#### 2008 Operational Estimate

Sponsor feedback was not received for 2008. The most recent 2007 operational data received by the sponsor is used.

### West African Gas Pipeline (B8)

#### Maximum Potential to Emit Estimate

The West African Gas Pipeline's emissions estimate of **244,728 short tons CO2** was calculated accounting for both combustion emissions from the compression and transmission of natural gas as well as fugitive emissions using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Pipeline Throughput	190 MMscfd	Project Description
Emissions Factors	3439 lbs CO2 per MMscfd from combustion 4297 lbs CO2 per MMscfd from fugitive	U.S. EIA and EPA GHG Inventory, Tables 3-34 & 3-36

Total emissions estimate = 244,728 short tons CO2 per year

$$\frac{190 \text{ MMsef}}{\text{day}} * \frac{333 \text{ day}}{\text{yr}} * \frac{3439 \text{ lbs CO2}}{\text{MMsef}} * \frac{\text{short ton}}{2000 \text{ lbs}} = 108,792 \text{ short tons CO2/yr (combustion)}$$

$$\frac{190 \text{ MMscf}}{\text{day}} * \frac{333 \text{ day}}{\text{yr}} * \frac{4297 \text{ lbs CO2}}{\text{MMscf}} * \frac{\text{short ton}}{2000 \text{ lbs}} = 135,936 \text{ short tons CO2/yr (fugitive)}$$

#### 2007 Operational Estimate Based On Sponsor Feedback

The West African Gas Pipeline was under construction and not operational during 2007. Since emissions from construction would be below the 100,000 short ton threshold this project is omitted from the 2007 inventory.

#### 2008 Operational Estimate Based On Sponsor Feedback

The West African Gas Pipeline was not operational during 2008. Since emissions from would be below the 100,000 short ton threshold this project is omitted from the 2008 inventory.

# Wilpro Energy Services (El Furrial) - B9

#### Maximum Potential to Emit Estimate

Wilpro Energy Services (El Furrial)'s emissions estimate of **289,106 short tons CO2** was based on capacity values and heat rates derived from the compressor depiction in the project description and from the manufacturer, Nuovo Pignone. Both combustion and fugitive emissions were included in the calculation. Below is the information used in the estimate. Pace experts



estimated the energy requirements for the required compression of natural gas based on specifications included in the project description.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Number of Compressors	4	Project Description
Capacity	60 MW	Project Description/Pace and Nuovo Pignone unit specs (Nye Thermodynamics Corporation)
Heat Rate	9,976 Btu/kWh	Nuovo Pignone unit specs (Nye Thermodynamics Corporation)
GWP for CH4	21	The Climate Registry, Appendix B
Emissions Factors	53.06 kg CO2/MMBtu (combustion) 0.0122 tonnes CH4/hr (fugitive)	The Climate Registry, Table 12.1 and API GHG Compendium, Table 6-5

Maximum potential to emit = 289,106 short tons CO2 per year

$$\frac{60MW *8000hr}{yr} * \frac{1000kW}{MW} * \frac{9976Btu*}{kWh} * \frac{MMBtu}{1000000Btu} * \frac{*53.06kgCO2}{MMBtu} * \frac{*0.0011023short tons}{kg} = 280,069 \text{ short tons CO2 (combust)}$$

$$\frac{0.0122 \text{ tonnes CH4*}}{hr} * \frac{short ton}{0.9072 \text{ metric tonne}} * \frac{*8000hr}{yr} * 4 \text{ compressors} * \frac{21 \text{ tonnes CH4}}{tonnes CO2e} = 9,037 \text{ short tons CO2 (fugitive)}$$

$$\frac{0.0122 \text{ tonnes CH4*}}{tonnes CO2e} * \frac{1000kW}{tonnes CO2} * \frac{1000kW}{$$

#### 2007 Operational Estimate Based On Sponsor Feedback

Wilpro Energy Services (El Furrial)'s 2007 operational emissions of 289,106 short tons CO2 was calculated using the following information.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Number of Compressors	4 centrifugal compressors	Project Description
Capacity	60MW	Project Description and Coopers
Heat Rate	9976 Btu/kWh	Coopers Data
GWP for CH4	21	The Climate Registry, Appendix B
Emissions Factors	53.06 kg CO2/MMBtu (combustion) 0.0122 tonnes CH4/hr (fugitive)	The Climate Registry, Table 12.1 and API GHG Compendium, Table 6-5

2007 Operational emissions = 289,106 short tons CO2 per year

60MW\*8000hr\*1000kW\*9976Btu\* MMBtu \*53.06kgCO2\*0.0011023short tons = 280,069 short tons CO2 (combust) yr MW kWh 1000000Btu MMBtu kg



 $\frac{0.0122 \text{ tonnes CH4}}{\text{hr}} * \frac{\text{short ton}}{0.9072 \text{ metric tonne}} * \frac{*8000 \text{hr}}{\text{yr}} * 4 \text{ compressors} * \frac{21 \text{ tonnes CH4}}{\text{tonnes CO2e}} = 9,037 \text{ short tons CO2 (fugitive)}$ 

#### 2008 Operational Estimate Based

Sponsor feedback was not received for 2008. Defaulted to 2007 operational data provided by the sponsor.

### Wilpro Energy Services (Pigap) - B10

#### Maximum Potential to Emit Estimate

Wilpro Energy Services (Pigap)'s emissions estimate of 507,923 short tons CO2 was based on capacity values and heat rates derived from the compressor depiction in the project description and from the manufacturer, Nuovo Pignone. Both combustion and fugitive emissions were included in the calculation. Below is the information used in the estimate. Pace experts estimated the energy requirements for the required compression of natural gas based on specifications included in the project description.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Number of Compressors	8	Project Description
Capacity	100 MW	Project Description/Pace and Nuovo Pignone unit specs (Nye Thermodynamics Corporation)
Heat Rate	10469 Btu/kWh	Nuovo Pignone unit specs (Nye Thermodynamics Corporation)
GWP for CH4	21	The Climate Registry, Appendix B
Emissions Factors	53.06 kg CO2/MMBtu (combustion) 0.0122 tonnes CH4/hr (fugitive)	The Climate Registry, Table 12.1 and API GHG Compendium, Table 6-5

Maximum potential to emit = 507,923 short tons CO2 per year

#### 2007 Operational Estimate Based On Sponsor Feedback

Wilpro Energy Services (Pigap)'s 2007 operational emissions of **571,090 short tons CO2** was calculated using the following information.



Data	Value	Source
Fuel Type	Natural Gas	Project Description
Number of Compressors	8 centrifugal compressors	Project Description
Capacity	100MW	Project Description and Nuovo Pignone data
Heat Rate	11819 Btu/kWh	Nuovo Pignone Data
GWP for CH4	21	The Climate Registry, Appendix B
Emissions Factors	53.06 kg CO2/MMBtu (combustion) 0.0122 tonnes CH4/hr (fugitive)	The Climate Registry, Table 12.1 and API GHG Compendium, Table 6-5

2007 Operational emissions = 571,090 short tons CO2 per year

$$\frac{100 MW}{yr} * \frac{8000 hr}{MW} * \frac{11819 Btu}{kWh} * \frac{MMBtu}{10000000 Btu} * \frac{53.06 kg CO2}{MMBtu} * \frac{0.0011023 short tons}{kg} = 553,016 \ short tons CO2 (combust)$$

$$\frac{0.0122 \text{ tonnes CH4}*}{\text{hr}} * \frac{\text{short ton}}{0.9072 \text{ metric tonne}} * \frac{*8000 \text{hr}}{\text{yr}} * 8 \text{ compressors} * \frac{21 \text{ tonnes CH4}}{\text{tonnes CO2e}} = 18,074 \text{ short tons CO2 (fugitive)}$$

### 2008 Operational Estimate

Sponsor feedback was not received for 2008. Defaulted to 2007 operational data provided by the sponsor.



# **APPENDIX C**

# **Conversion Factors and Sources**

Below are additional emission factors, conversions, and other factors used in the emission estimates and sources.

Value	Unit of Measure	Source	
8,000	Hours per Year	Conservative Operating Assumption – EIA Form 923 data, 2007	
333	Days per Year	Calculated from Hours per Year	
1,000	kWh per MWh	The Climate Registry, Appendix C	
1,000,000	Btu per MMBtu	The Climate Registry, Appendix C	
251.98	Btu per cal	Perry's Chemical Engineering Hand Book, Table 1-7	
0.001	metric tonnes per kg	The Climate Registry, Appendix C	
0.0011023	Short Tons per kg	The Climate Registry, Appendix C	
1,000,000	scf per Mcf	The Climate Registry, Appendix C	
0.02832	m3 per scf	The Climate Registry, Appendix C	
0.9072	metric tonnes per short ton	The Climate Registry, Appendix C	
0.000001	metric tonnes per g The Climate Registry, Appendix C		
0.0000011023	short tons per g	The Climate Registry, Appendix C	
907.18	kg per short ton	The Climate Registry, Appendix C	
2.2046	lbs per kg	The Climate Registry, Appendix C	
2204.62	lbs per metric tonne	The Climate Registry, Appendix C	
2,000	lbs per short ton	The Climate Registry, Appendix C	
42	gallons per barrel	The Climate Registry, Appendix C	
53.06	kg CO2 per MMBtu natural gas The Climate Registry, Table 12.1		
73.15	kg CO2 per MMBtu diesel (fuel oil)	The Climate Registry, Table 12.1	
93.46	kg CO2 per MMBtu coal (bituminous)	The Climate Registry, Table 12.1	
97.09	kg CO2 per MMBtu coal (sub-bituminous)	The Climate Registry, Table 12.1	
74.54	kg CO2 per MMBtu crude oil	The Climate Registry, Table 12.1	
0.0546	kg CO2 per scf natural gas	The Climate Registry, Table 12.1	
78.80	kg CO2 per MMBtu Residual Fuel Oil (#5 & 6)	The Climate Registry, Table 12.1	
1029	Btu per scf natural gas	The Climate Registry, Table 12.1	
5.825	MMBtu per barrel diesel (fuel oil)	The Climate Registry, Table 12.1	
24.93	MMBtu per short ton coal (bituminous)  The Climate Registry, Table 12.1		
17.25	MMBtu per short ton coal (sub-bituminous)	The Climate Registry, Table 12.1	
5.8	MMBtu per barrel crude oil The Climate Registry, Table 12.1		
893	g CO2 per kWh generated using coal IFC Guidance Note 3, Annex A section A-(i)		
659	g CO2 per kWh generated using oil	IFC Guidance Note 3, Annex A section A-(i)	
395	g CO2 per kWh generated using natural gas	IFC Guidance Note 3, Annex A section A-(i)	



### APPENDIX D

# Annotated Bibliography

American Petroleum Institute. <u>Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry</u>. February 2004.

<a href="http://www.api.org/ehs/climate/new/upload/2004">http://www.api.org/ehs/climate/new/upload/2004</a> COMPENDIUM.pdf>

For those projects in Tier B [Accroven SRL, Various Egypt Subsidiaries (Apache), EP Interoil, RPK-Vysotsk (Lukoil II)] for which there were no consumption volumes or other data to base an emissions estimate from, examples from API were used. The size of operations for these examples was compared to the size of the projects in Tier B resulting in a multiplication factor which was applied to the API example's emissions estimate to arrive at an approximate estimate for the Tier B project. Additionally, a methane fugitive emissions factor for compression was used for the Wilpro Energy Services projects as this factor was sourced from the API Compendium of Greenhouse Gas Emissions, Table 6-5.

California Energy Commission, Electric Power Research Institute. <u>Implementing Advanced</u>
Control and Power Technologies to Improve Energy Efficiency and Reduce Operating Costs for
U.S. Petroleum Refining and Petrochemical Manufacturing. CEC-500-2006-055. April 2006.

No information was provided in the project description for the Equate Petrochemical facility indicating its size or energy consumption. The average size of petrochemical facilities in the Middle East, of ~850,000 tpy, was sourced from the Oil and Gas Journal. Specific energy requirements and generation sources expected from a petrochemical facility of this size were sourced from the CEC report. This data enabled the qualified estimation of emissions from this facility.

The Climate Registry. <u>General Reporting Protocol Version 1.1.</u> May 2008. <a href="http://www.theclimateregistry.org/downloads/GRP.pdf">http://www.theclimateregistry.org/downloads/GRP.pdf</a>

The Climate Registry is the broadest reaching registry in North America with participation from all Canadian provinces, six Mexican states, and forty U.S. states. The Climate Registry's General Reporting Protocol is based on the WRI/WBCSD GHG Protocol, the "gold" standard in GHG Accounting and Reporting. Emission, heat content, and conversion factors from this document were used in the analysis (Table 12.1 and Appendix C).

Energy Information Administration (EIA) U.S. Natural Gas Consumption by End Use. 2003-2007.

<a href="http://tonto.eia.doe.gov/dnav/ng/ng\_cons\_sum\_dcu\_nus\_a.htm">http://tonto.eia.doe.gov/dnav/ng/ng\_cons\_sum\_dcu\_nus\_a.htm</a>

Emissions from natural pipeline transport are very segment specific, varying with pipeline infrastructure, compression energy source, and segment distance. In order to define the related



emissions for representative pipeline hauls in the absence of system specifications, Pace assumed pipeline fuel consumption and both combustion and non-combustion CO2e emissions based on EIA natural gas consumption data and data from the U.S. GHG Inventory released by EPA in 2008. This data yielded an average fugitive emission loss rate of 1.7% (per unit volume), and fugitive emissions factor of 4,297 lbs CO2 per MMscfd. The emissions associated with combustion required to move natural gas was calculated to be3,439 lbs CO2 per MMscd.

International Energy Agency. <u>Coal in Indonesia in 2006</u>. <a href="http://www.iea.org/Textbase/stats/coaldata.asp?COUNTRY">http://www.iea.org/Textbase/stats/coaldata.asp?COUNTRY</a> CODE=ID>

The coal profile for Indonesia in 2006 specifies the type of coal consumed and what it was combusted for. The table provided by IEA, details the volume of coal used in electricity plants as being 100% sub-bituminous. This information was necessary to calculate the emissions for Paiton Energy as each coal type has a different emissions factor and heat content value.

International Energy Agency. Coal in Morocco in 2006. <a href="http://www.iea.org/Textbase/stats/coaldata.asp?COUNTRY">http://www.iea.org/Textbase/stats/coaldata.asp?COUNTRY</a> CODE=MA>

The coal profile for Morocco in 2006 specifies the type of coal consumed and what it was combusted for. The table provided by IEA, details the volume of coal used in electricity plants as being 100% bituminous. This information was necessary to calculate the emissions for Jorf Lasfar Energy as each coal type has a different emissions factor and heat content value.

International Finance Corporation. <u>Guidance Note 3: Pollution Prevention and Abatement.</u> July 31, 2007. < <a href="http://www.ifc.org/ifcext/sustainability.nsf/Content/GuidanceNotes">http://www.ifc.org/ifcext/sustainability.nsf/Content/GuidanceNotes</a>

This guidance note by the IFC provides suggested GHG emissions estimation methodologies for the energy and industrial sectors. The table in Annex A provides the capacity for electric generating technologies (oil = 25MW, coal = 18MW, gas = 41MW) that would emit 100,000 metric tonnes of CO2e per year. The table also provides the emissions factor which was applied to the electric generation projects for which no throughput or consumption volumes were available.

Nye Thermodynamics Corporation. Gas Turbine Specifications by Manufacturer. Nuovo Pignone turbine specifications.

<http://www.gas-turbines.com/specs/manuf.htm>

The project descriptions for Wilpro Energy Services (Pigap) and Wilpro Energy Services (El Furrial) indicate that the compression if driven by Nuovo Pignone Gas Turbines. Pace estimated energy requirements from compression levels depicted for each project and consulted specifications of the appropriately sized Nuovo Pignone gas turbines. Efficiency and other specifications of these turbines were collected from the Nye



Thermodynamics Corporation website documenting gas turbine specifications by manufacturer.

Oil and Gas Journal. "Special Report: Worldwide Ethylene Capacity Increases 2 Million TPY in 2007," Volume 106, July 28, 2008.

No information was provided in the project description for the Equate Petrochemical facility indicating its size or energy consumption. The average size of petrochemical facilities in the Middle East, of ~850,000 tpy, was sourced from the Oil and Gas Journal. Specific energy requirements and generation sources expected from a petrochemical facility of this size were sourced from the CEC report. This data enabled the qualified estimation of emissions from this facility.

Trans Alaska Pipeline Environmental Impact Statement Document, Energy Requirements for Conservation Potential. February 15, 2001.

<a href="http://tapseis.anl.gov/documents/docs/Section 4 9 May2.pdf">http://tapseis.anl.gov/documents/docs/Section 4 9 May2.pdf</a>

Energy demand factors for crude pipeline transport were sourced from documents associated with the Environmental Impact Statement for the Trans Alaska Gas pipeline in order to calculate GHG emissions for the Baku-Tblisi-Ceyhan Pipeline.

United States Environmental Protection Agency.(EPA). <u>AP 42: Compilation of Air Pollutant Emission Factors</u>, Volume 1 Stationary Point and Area Sources. "Appendix A: Miscellaneous Data & Conversion Factors". September 1985. <a href="http://www.epa.gov/ttn/chief/ap42/">http://www.epa.gov/ttn/chief/ap42/</a>>

Conversion factors not provided by The Climate Registry were obtained from U.S. EPA's AP 42 document, specifically for the density of natural gas and crude oil and the conversion of kilometers to miles.

United States Environmental Protection Agency.(EPA). <u>Inventory of U.S. GHG Emissions and Sinks</u>, 1990-2006. Tables 3-34 and 3-36.

<a href="http://www.epa.gov/climatechange/emissions/downloads/08">http://www.epa.gov/climatechange/emissions/downloads/08</a> CR.pdf>

Emissions from natural pipeline transport are very segment specific, varying with pipeline infrastructure, compression energy source, and segment distance. In order to define the related emissions for representative pipeline hauls in the absence of system specifications, Pace assumed pipeline fuel consumption and both combustion and non-combustion CO2e emissions based on EIA natural gas consumption data and data from the U.S. GHG Inventory released by EPA in 2008. This data yielded an average fugitive emission loss rate of 1.7% (per unit volume), and fugitive emissions factor of 4,297 lbs CO2 per MMscfd. The emissions associated with combustion required to move natural gas was calculated to be 3,439 lbs CO2 per MMscd.